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ABSTRACT

This research project deals with grade level, sex, GPA, formal library science class and reading achievement level of junior high school students. These were studied in relation to library attitude, usage, skill and knowledge. The card catalog, vertical file, periodicals, and reference books were evaluated to obtain statistics for the conclusions of this study. Using the chi-square test for significance, it was found that girls were more academic than boys, and students who had taken library science classes were more studious. Higher reading ability students showed a greater interest in hardbound books and boys generally preferred paperbound books. The students knew that the card catalog was useful, but did not know how to use it. Dictionary skill was found to be a problem. Periodicals were chosen according to student interest and significantly, the "Reader's Guide" was the least used reference tool in all three school districts' libraries. Browsing and requesting librarian assistance were the two main finding tools used by the students. Skill in using reference books was definitely increased by taking a formal library science class. (Author/DH)

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A STUDY: LIBRARY ATTITUDES, USAGE, SKILL AND KNOWLEDGE OF JUNIOR HIGH SCHOOL AGE STUDENTS ENROLLED AT LINCOLN JUNIOR HIGH SCHOOL AND BURNS UNION HIGH SCHOOL BURNS, HARNEY COUNTY, OREGON 1971-72

A Research Project

Submitted to the

Graduate Department of Library and Information Sciences

Brigham Young University

Provo, Utah

In Partial Fulfillment

of the Requirements for the

Master of Library Science Degree

By

Golden V. Adams, Jr.

Summer Semester 1972

LI 004 365

ABSTRACT

This research project deals with school attended by students, grade level, sex, GPA, formal library science class and reading achievement level of junior high school age students. These were studied in relation to library attitude, usage, skill and knowledge. The card catalog, vertical file, periodicals, and reference books were evaluated to obtain statistics for the conclusions of this study.

Using the chi-square test for significance, it was found that girls were more academic than boys, and those students who had taken formal library science classes were found to be more studious. Attitudes of the students showed a greater interest in hardbound books for higher reading ability students, although boys generally preferred paperbound books.

The students had learned that the card catalog was useful, but they did not know how to use it. It was found that periodicals were chosen according to student interest and it was highly significant that the Reader's Guide was the least used reference tool in all three school districts' libraries. Browsing and requesting librarian assistance were the two main finding tools used by the students. Dictionary skill was found to be a problem and knowledge of the card catalog was lacking. The skill in using reference books was definitely increased by taking a formal library science class.

Unquestionably the library has as definite a place in the junior high school program as any subject offered. It is an indispensable integral factor in enlarging the pupils' world by giving service in enriching the curriculum, in offering encouragement and guidance in worthwhile reading and in affording opportunities for pupil growth by actual participation in building up the library and in increasing its services.

C.H. Pygman, Nation's Schools, Oct., 1939

PREFACE

This study was prompted by the various differences in cultural and socio-economic background, and the unique educational institution operating in the area of Burns-Hines, Oregon. The Lincoln Junior High School Library was the main facility used for this study, although the Hines Elementary School Library provided the basis of reference for the freshman students of that community enrolled in the Burns Union High School.

The results of this research project were compiled from all students registered in grades seven through nine involving three school districts working together in a "cooperative system," sharing existing facilities and some teachers. The chief purpose of the study was to determine where the students stood, generally, in relation to available library facilities. It includes the areas of library skills, knowledge, usage and attitudes.

A work of this scope requires numerous people to make it a success. To my former principal, Edward R. Clark, I am most grateful for his administrative support in making the student achievement test scores available for the purposes of this study, and for his authorization to utilize the Lincoln Junior High School as the basis of this project.

I would like to acknowledge the support of the Superintendent of Schools, Orville "Red" Bailey; Edith V. Aman, Lincoln Junior High School Librarian; Lila Langdon, Burns Union High School Librarian;

Al Starns, Superintendent of Harney County Intermediate Education District; and Helen Figg, a counselor at Burns Union High School for their efforts in providing suggestions, student files and information pertinent to this study.

Teachers who provided the students and the facility to administer the questionnaire within their classrooms were Margot Milius, English; Val Garrison, Mary Otley and John McCormick, physical education instructors at the Burns Union High School. Jo Ellen Foyle, seventh grade science instructor at the Lincoln Junior High School provided additional support. I am grateful for their team work in the questionnaire follow-up to ensure the 100 per cent return.

Thanks must go to the seventh, eighth, and ninth grade students, with most of whom I had the opportunity of association in a teaching capacity as a science teacher for the years 1969-72. Without their gracious cooperation and help, this investigation could not have been conducted. Their honest and intellectual curiosity provided me with the drive to see this work through to completion.

This study is dedicated to the hard work and sacrifice that a researcher must undergo if he desires to leave behind him some of his greatest achievements. This sacrifice is not only required of the writer, but also to his family that sacrifices both time and money. To my beloved wife I then dedicate this work.

I attribute this work to my Father in Heaven. Without his blessing of health, love and happiness this work could never have seen fruition.

Lastly, I would like to thank the Brigham Young University Graduate Department of Library and Information Sciences for providing and financing computer facilities in compiling the research results, but my deepest gratitude goes to my wife, Diane for her part in the typing of this research paper.

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CHAPTER I

THE PROBLEM

Introduction

This study involved an extensive investigation in the area of library attitudes, usage, skill and knowledge to determine the comparison primarily between school districts. One of the many factors influencing the results of this study was thought to be reading ability as numerous students were very poor readers.

The system of education was also taken into consideration. Burns Union High School involved a culmination of two school systems beginning in the ninth grade. A restructuring of systems evolved into a "cooperative system" in the school year 1971-72 between Burns Elementary and Hines Elementary School Districts by combining seventh and eighth grade students into one building at the Lincoln Junior High School.

Traditionally, Lincoln School was part of the Burns Elementary School District where the seventh and eighth grades attended for about seven years prior to the change when Hines students were also included. Each school had a different curriculum with a different administration, and Hines Elementary School was definitely more progressive than Burns. More emphasis was placed on the updating of teaching methods in Hines until the wheels of progress began to call for a "cooperative system" wherein the facilities, teachers, and curricula were shared beginning in the fall of 1971.

Historically, Burns had been under the same system of education, including administration, for some twenty-seven years. The communities were also reflected through the schools, Hines being more progressive and susceptible to change than was Burns.

Through board action, the Burns Elementary School Board was officially granted junior high school status for the Lincoln Junior High School in the fall of 1971 by the Oregon State Department of Education. A more progressive and updated curriculum was introduced and accepted; the seventh and eighth grades of Burns and Hines were combined in the facility of Lincoln Junior High School.

Previous to this; however, the joint school boards of Burns Elementary, Hines Elementary, and Burns Union High School had collectively hired a new superintendent of schools, replacing three separate superintendents in the three school districts. Under this change, a vote for combining the three districts was planned, and after the polling was completed this proposal had been defeated by four votes.

Reacting in the best interest of modern education for the students of this area, the present administration worked together to form a working "cooperative system" and pledged support in adding career education clusters to the curricula. As a result of this decision and the inadequacy of textbook teaching only, the library began to have a more definite function as the center of learning in the total education process.

In order to define needs and give recommendations for the advancement of all students, not just those who were college bound, this study was devised in the hope that improvement in the total educational program would continue more effectively by defining the

present standing and status of the students in relation to the existing facility and program.

Library Attitudes

In studying the literature, it was found that many studies have been made and numerous articles have been written concerning attitudes of students and their relationship to reading ability. Psychological studies have been conducted that deal with attitudes in a multitude of areas, but few have involved library attitudes of junior high school age students.

The attitude of each student will greatly determine his success or subsequent failure in academia as it pertains to learning, especially in a multi-media approach. Many poor readers would be completely lost if they were forced to depend totally on books alone. Some of the students in the study were shown to fall in this category.

As education moves to a variety of teaching methods and instructional media centered learning, the constructive attitude of utilization of library resources will become most imperative to learning. The core of any curriculum should revolve around the library with all types of media for instruction, and the success of any educational program will be directly proportional to the caliber of the library.

Attitudes involved in this study included the students' ideas concerning the utility of books, card catalog, periodicals, and vertical file materials. If their attitude was poor due to negative teaching, this area would be of no value to the students' education until they accepted their use as beneficial. Many conclusions were derived from the likes and dislikes of the students and their relationship to the total school program.

Attitudes are very important in the development and growth of the students through reading. The writer feels that reading at adolescence functions chiefly to satisfy the feelings of the soul which represent the life of the race. It is the students that are much more important than the educational system. The system should be such that the students' attitudes are changed for the better.

Library Usage

A different approach to library usage was taken in this study when compared with most use studies found in the literature. An attitude oriented approach was used in light of facilities available in the Burns-Hines area making this study somewhat different than other use studies.

Attitudes affect the student and cause him to determine what library facilities he will use. Conversely, the use of library facilities also has a definite effect on the attitude development of the individual. In this way, they are inseparable. The students in the study were asked to indicate the frequency with which they utilized the particular library methods and facilities. They also indicated their method of choice in locating materials.

Library Skill and Knowledge

Every area of major importance to the library was included in the questionnaire. The manner in which the facility was used, it was thought, could either make or break any student. As knowledge becomes more specialized, methods of storage and retrieval improve and the need for learning through library facilities increases; thus making library skills and knowledge increasingly vital.

Knowledge continues to advance in an alarmingly increasing rate. Texts are no longer adequate and skills become more necessary for the retrieval of new information daily. In order to determine future needs in the Burns-Hines area, a definite evaluation of the present system was required.

The Problem

This study involved the library attitudes, use, skills, and knowledge of 401 students in grades seven through nine in the sister communities of Burns and Hines in eastern Oregon. These three grades were chosen inasmuch as they represent three school districts and the typical ages of junior high school students. The writer had a first-hand knowledge of the system and the area from teaching experience with these students involved. Limitations of the results may have come primarily through the students' involvement in extra-curricular activities and the inadequacy of reading capabilities involving numerous students in the study.

Most measurable items that might influence the students' relationship to the library program operating in the respective schools were investigated. The students' general reading ability, attitude, and usage of the facilities were studied. An examination of the likes and dislikes of the student population in relation to subscription periodicals was undertaken. Hopefully, the knowledge and skill acquired by each student as a result of past experience was measurable.

The range of reading experience and ability was wide, but all of these items were studied in relation to the grade, school system previously attended, and the result of formal library education. From

this information it was anticipated that definite patterns could be discovered between the different systems that would enhance the "cooperative system" for the benefit of every student in the area.

CHAPTER II

LITERATURE SEARCH

The problem of how students develop constructive attitudes and the ability to utilize library services depends largely upon the facility and the importance which the library program holds in the minds of the educational powers that be.

Purposes of the School Library

Educational excellence is dependent upon a quality school library program. Educational goals and library goals must; therefore, be identical.

> Because the primary goal of general education in our free society is to educate citizens for functional literacy, the primary goal of school library service is to facilitate the attainment of this goal. . . . The constant aim of today's library is to encourage and to enable each student to achieve the optimum of his potential as a learner, as a citizen, and as a human being.[1]

The recommendations of the American Association of School Librarians as defined in 1960 are unchanging general purposes which the school library should fulfill.

The purposes of the school library are to

1. Participate effectively in the school program as it strives to meet the needs of pupils, teachers, parents and other community members.

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[1]American Library Association. Standards for School Library Programs (Chicago: American Library Association, 1960), pp. 8-9.

2. Provide boys and girls with the library materials and services most appropriate and most meaningful in their growth and development as individuals.

3. Stimulate and guide pupils in all phases of their reading so that they may find increasing enjoyment and satisfaction and may grow in critical judgement and appreciation.

4. Provide an opportunity through library experiences for boys and girls to develop helpful interests, to make satisfactory personal adjustments, and to acquire desirable social attitudes.

5. Help children and young people to become skillful and discriminating users of libraries and of printed and audio-visual materials.

6. Introduce pupils to community libraries as early as possible and co-operate with those libraries in their efforts to encourage continuing education and cultural growth.

7. Work with teachers in the selection and use of all types of library materials which contribute to the teaching program.

8. Participate with teachers and administrators in programs for continuing professional and cultural growth of the school staff.

9. Co-operate with other librarians and community leaders in planning and developing an over-all library program for the community or area.[1]

There are current practices that tend to stifle these purposes, not the least of the practices being that the library functions as a study hall. "If the library is to fulfill its purpose in operating effectively in the school program it should not be used as a study hall."[2] Some systems use the library for this purpose where children are regularly scheduled into the library at a specific

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[1]C. M. Slauson, "The Junior High Library," Wilson Bulletin, III (December, 1928), 487.

[2]Ibid.

time for study or free reading. Nothing will defeat the purpose of the library as quickly as to use it as a study hall "where enforced attendance and rigid discipline make it soon lose to the children its true significance."[1] This creates the problem of hampering the librarian to the point that he cannot guide reading or help other children in need of library assistance.[2]

Media are important factors in shaping the learning environment. Since education is essentially creative, it not only involves the learned skills of reading, but it employs observation, listening, and social interaction. The student will need to develop self-motivation, a spirit of inquiry, self-discipline, and self-evaluation. It will ultimately necessitate that he must communicate with his peers. This entire process involves media, staff, and its center (the library) as vital.[3]

> Media convey information, affect the message, control what is learned, and establish the learning environment. They will help to determine what the pupil sees and what his attitude will be toward the world in which he lives.[4]

With an established function of media and the broad purposes of school libraries in mind, it can be readily seen that the library must include much more than basic supplemental materials for classroom instruction. It must be more universal, applying to the spe-

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[1]Slauson, "The Junior High Library," p. 487.

[2]Ibid.

[3]Ibid.

[4]American Library Association. Standards for School Library Media Programs (Chicago: American Library Association, 1969), p. 1.

cific interests of its users, as well. J.M. Glass expresses this library malfunction as follows:

> It is . . . little short of criminal negligence to restrict a junior high school wholly to the supplementary and accessary aids essential to instructional purpose of the classroom. . . .[1]

Evaluation and Surveying School Libraries

The purpose of research is to discover answers to questions through the application of scientific processes. It is important for the researcher to be able to devise a technique of study which will lead to well-founded answers. As society has progressed, research has become more prominent in solving problems, and one of the areas newly employing research methods is library science.

As with any published research results, the completed report presents very misleading accounts of the ways research projects are carried out before ideas become definite. They seldom tell of wasted hours, personal anguish, false starts, "or personal exhilaration over unexpected successes."[2]

Some of the problems existing in the field of evaluating and surveying school libraries follows:

1. Although geared to school objectives, most evaluative techniques fail to measure adequately or with sufficient refinement such basic factors affecting library programs as instructional methods, curriculum content, the nature of assignments, and classroom motivation of library use.

2. Many qualitative elements of school library programs do not lend themselves to precise measurement, and these elements are among those that form the most

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[1]J. M. Glass, "The Library in Junior High Schools," Library Journal, L (February 1, 1925), 124.

[2]Fred P. Barnes, Research for the Practitioner in Education (Washington, D.C.: National Education Association, 1970), p. 25.

important parts of school library services. For example, it is impossible to measure accurately and comprehensively the effects of the library program on the reading patterns of children and young people unless very complicated and expensive research studies are conducted (and even then it is difficult to control the many variables in any given situation).

3. Schools, curricula, students, and society itself are constantly subject to change, and hence tools and techniques used for evaluation must be frequently reappraised and revised. Measuring instruments used to survey materials collections in high school libraries today, for example, bear little resemblance to those used even five years ago. The use of library resources by students provides another instance where evaluative measures have assumed no forms. School library standards, commonly used as a measure in surveys, require continuous revision, too, and this precept applies to both quantitative and qualitative standards.

4. Surveys that amass quantitative data about school library facilities do not, at times, report in sufficient refinement all the factors and variables needed for complete and accurate interpretation of the statistics. They are more apt to err on the side of overestimating, rather than underestimating, existing conditions. These surveys also have the obvious limitation of all surveys that report only quantitative, and not qualitative, aspects of school library programs. The old, old problem arises of ascertaining not just "how many?" or "how much?" but also "how good?"

5. School situations vary and so do school library practices and hence comparative studies are difficult to make. It is usually hazardous to make comparisons among school libraries on the sole basis of quantitative evidence reported in two or more surveys conducted under different auspices. Variables cannot be easily controlled in a survey dealing with any sizeable number of schools.

6. Evaluations in depth employ subjective appraisals, even when the techniques used may be quite precise. Some aspects of school library programs can best be judged on the basis of expert opinion, and the degree of expertness may affect the nature, even the validity, of the findings.

7. Because standards for size of the library staff are seldom met, few school library programs have reached an optimum level in this country. The reliability and validity of measuring instruments and evaluative process have therefore rarely been tested adequately and established with certainty.

8. The danger exists that evaluations may on occasion lead to undue smugness on the part of the individuals connected with the school or systems being evaluated. Statistical surveys covering broad geographical areas may cause personnel in some high-ranking schools to view with contentment their comparative advancement over schools in other localities, and see no need to make plans for further improvements in their own situations. Quantitative standards have always had the built-in limitation of being misused to perpetuate an undesirable status quo.

9. Some of the area studies or planning proposals, particularly those that incorporate or project cooperative measures for different types of libraries--school libraries among them--suffer from two major drawbacks: They are frequently made on purely subjective and theoretical bases and not on a reliable body of evidence, and they are sometimes formulated by surveyors without specialized knowledge of all the types of libraries represented. The imminent danger here is that new plans may be proposed which, if adopted, would keep individual libraries at a functionally substandard level.

10. In the school library field, surveys are sometimes made or recommended unnecessarily and become, in effect, a form of beating down open doors. The need to have good school libraries should not, in an enlightened democratic society, have to be proved by tons of statistics. Structuring plans and procedures to obtain such libraries may require statistical data for guidelines.

11. On the other hand, the school library field today stands greatly in need of the collection of data based on surveys, feasibility studies, evaluations, and other inquiries. The changes within the last five years--all those explosions in population, communications, knowledge, and technology that we hear about wherever we go and witness ourselves--have created an almost new world for school library programs and planning at all levels, and we need, sometimes desperately, a great body of new information.[1]

As we know from experience in all fields directly or indirectly dealing with knowledge, taking the medical field as an example, a lack of knowledge can cost lives. It is not cancer that kills but a lack of knowledge. By knowing causes, quite often a cure follows resulting

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[1]Maurice F. Tauber and Irlene Roemer Stephens, Library Surveys (New York: Columbia University Press, 1967), pp. 199-201.

in a new body of knowledge.

> The job of the surveyor . . . is to concentrate on means, evaluating them as best he can in the faith that superior personnel, book collections, organization, and administration cannot fail to effect the largely intangible end of reading satisfaction through library use.[1]

Library Attitudes of Junior High School Aged Students

> McDonald has defined an attitude as ". . . a predisposition to action, a state of readiness to act in a particular way. Attitudes are generalized states of the individual, which lead to or result in a wide variety of particular ways of behaving."[2]

From the foregoing statement among numerous others, it might be said that the responsibility of the school is to shape the attitudes. Education, after all, is what is left after the student has forgotten specific facts. In other words, "mere exposure to the content of the course does not . . . guarantee that students' attitudes will change regarding the topics being studied."[3]

The school or school library cannot be given the total responsibility for students' attitudes. Nor can the students' personality be considered the only barrier for poor attitudes. Along this line of thought, Cullen and Katzenmeyer conducted a study among eighth grade students correlating school attitudes with achievement and ability. This could also directly apply to school libraries because

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[1]Ibid., p. 88.

[2]Frederick J. McDonald, Educational Psychology (San Francisco: Wadsworth Publishing Co. Inc., 1960), p. 214.

[3]George A. Jeffs, "Student Attitude Survey, Clark High School" (unpublished survey, Clark County School District, Las Vegas, Nevada, [1967]), pp. 1-2. (Microfiche.)

schools definitely can and do influence attitudes of students as to the importance of the library in education.

Cullen and Katzenmeyer found that

> . . . schools should not attribute student satisfaction to personality alone; . . . certain components of school satisfaction are significantly related to achievement and ability and do significantly increase the multiple correlation between ability and achievement. . . .[1]

They concluded from their findings that further research was necessary in order to define the nature of schools satisfaction components and to discover the antecedents.[2]

A study was made by William V. Meredith and Thomas M. Banks of the Broward County School Board at Fort Lauderdale, Florida in 1970 wherein they studied the attitudes of students in the Reading Center Program established there. They were interested in the personality and ability of each student or group of students in comparison to the amount of time spent at the Center.[3] They concluded that:

1. Children served by the Center tended to make greater gain. . . .
2. Children who needed more help stayed longer.
3. Children who possessed more desireable personality traits were likely to remain at the Center longer than children with less desireable traits.[4]

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[1]Robert J. Cullen and Conrad G. Katzenmeyer, "Achievement and Ability Correlates of Components of School Attitude Among Eighth Grade Students" (unpublished paper presented at the annual meeting of the American Research Association, Minneapolis, Minnesota, March, 1970).

[2]Ibid.

[3]William V. Meredith and Thomas M. Banks, "A Study of the Reading Center Program for the 1969-70 School Year" (unpublished paper, Broward County School Board, Fort Lauderdale, Fla., September, 1970). (Microfiche.)

[4]Ibid., p. 16.

In other words, it appeared that personality differences and aptitudes and achievement may influence the length of time that children remained in the Center. The descriptions associated with personality trait differences are admittedly vague. Who is to say what is desireable in attitudes and what is not? Where is the line drawn? Where do we place our objectives as educators and librarians? Is each student poured into a mold whether he fits or not? Or do we allow room for creativity on the part of the student?

Guilford, Merrifield, and Cox reported a study on creative thinking at the junior high school level. They reported that "as to sex differences . . . it appears that boys do a little better on tests of flexibility, whereas girls do better on tests of fluency."[1] Perhaps society has come to expect exactly that.

Dr. Glasser in his book Reality Therapy states that a child's ability to "live a successful life depends upon a series of personal involvements with responsible people, and teachers are among the most important people a child encounters."[2]

> We need to better understand our students so that we might attempt to develop more effective techniques that will help each student to better fulfill his own particular needs. To accomplish that goal requires involvement! We must personally become involved with our students.[3]

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[1]J. P. Guilford, P. R. Merrifield, and Anna B. Cox, Creative Thinking in Children at the Junior High Levels (Los Angeles: University of Southern California, 1961), p. 29.

[2]William Glasser, Reality Therapy (New York: Harper and Row, 1965), p. 158, cited by David W. Roffers, "Kids Are Our Most Important Product" (final report of research by the Lincoln Learning Center, Minneapolis Public Schools, Minn., August, 1967). (Microfiche).

[3]David W. Roffers, "Kids Are Our Most Important Product" (final report of research by the Lincoln Learning Center, Minneapolis Public Schools, Minn., August, 1967), p. 3.

Each teacher and each librarian is committed to help the students they teach develop creativity, self-initiative, and self-motivation and guide them toward becoming responsible citizens. This requires healthy attitudes which can be taught in schools and libraries when they work together to fulfill their objectives.

Library Usage in Junior High Schools

Several studies were found during the course of the literature search that attempted to define or analyze the use of libraries by the students on a secondary school level. One of the most representative of these was the Philadelphia Student Library Resource Requirements Project where approximately 10,000 students were asked to list reasons for using the school library and also reasons for not using the school library.

John Q. Benford, director of the Philadelphia Project, stated that the survey showed that the larger part of materials students said they needed came from class assignments.[1] This was given as the chief reason for library use.

Benford also commented on the fact that the longer a student remains in school, the less the interest he shows in reading for pleasure.

> It is disturbing to discover that students lose their interest in reading for pleasure the longer they remain in school. Is this because the world of knowledge is available to them through other media such as radio, television, and movies, or is it due to a negative reaction to the learning process which places a heavy emphasis on the use of printed materials for school work?[2]

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[1]John Q. Benford, "Philadelphia Student Library Resource Requirements Project," Library Journal, XCVI (June 15, 1971), 2044.

[2]Ibid.

He further explained that the results of this research study conducted in Philadelphia gave no clear explanation to these questions. In the final analysis, about half of the students in grades six through twelve said they obtained everything they needed from the library. Twenty per cent of the students questioned in the study said they received nothing that they needed.[1]

It is apparent that only about half of the students were being adequately served by the library. The other half were either not able to obtain the materials, or they would not make the effort to do so, with various degrees of success.

One of the difficulties in obtaining library materials revolves directly from problems with the manner of retrieval. The card catalog is the index to most acquisitions in school libraries, and it requires a certain amount of skill and knowledge to use it effectively.

Richard H. Perrine of Rice University Library in Houston, Texas describes the library card catalog as "the imperfect key."

> The card catalog, ostensibly the unique key to a library's holdings, often seems (in Jesse Shera's words), "an imperfect key which unlocks only certain doors." Well aware of this from their own searches as well as from their assistance to patrons, librarians have made many examinations of card catalog use processes in hopes of finding ways to improve the catalog or to facilitate its use.[2]

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[1] Ibid.

[2] Richard H. Perrine, "Catalog Use Study: The Imperfect Key," RQ Reference Services Division of the American Library Association, VI (Spring, 1967), 115.

> Not all of these examinations have been reported in printed form, but 25 publications on card catalog use are cited in Bibliography of Use Studies, compiled in 1964 by Richard A. Davis and Catherine A. Bailey. One of these publications, Sidney L. Jackson's Catalog Use Study, 1958, which notes 30 previous investigations of card catalog use at individual libraries, analyzed 5,700 interviews with catalog users at 39 different libraries. Although each survey has shed some light on the problem, many questions about card catalog use remain unanswered.[1]

Some of the types of difficulties encountered in using the library catalog to find desired materials were listed in survey results by Perrine. The three most common difficulties were subject headings, filing arrangement, and lack of cross-references. It was concluded that subjects were often listed under a heading other than what the user expected to find. The most common filing arrangement problem involved "Mc" or "Mac" and modified entries. Special knowledge of the card catalog was usually lacking in the person having difficulty with this one as to how the subject or title was arranged in the card catalog. The lack of cross-references were usually blamed on local cataloging where adequate cross-references were not provided.[2]

The number one cause of card catalog difficulty was listed by Perrine as local policy. This could involve anything ranging from how the cataloging was done to the instruction of students in the use of the card catalog.[3]

Frederic R. Hartz, circulation librarian of Rider College in Trenton, New Jersey conducted a "one shot" survey to explore various students' reasons for using school libraries. The study involved 8 high

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[1] Ibid., p. 119.

[2] Ibid., p. 116.

[3] Ibid., p. 118.

schools and 9,541 students. He found that 41 per cent of the total school population used the school library at least once during the day. Of this group, 27 per cent were there to return, charge, or renew books; 25 per cent studied their own books; 14 per cent were looking for assignment materials; 14 per cent were reading general books concerning their personal interests; 13 per cent were working with reserved books; and 7 per cent were there for other reasons.

Those students utilizing the library for reasons other than those given above listed several interesting ones. These are given in the order of frequency:

> (1) to work as a student assistant; (2) to pick up or return audio-visual equipment; (3) to receive instruction in the use of the library; (4) to buy pocket books; (5) to accompany a friend; (6) to look for a lost book; (7) to attend detention hall; (8) to check the time; (9) to use the library rather than have lunch; and (10) to look for a friend.[1]

Hartz found that most items were used within the library rather than circulated for home use. About twice as many items were used within the library, and those were mostly periodicals and non-book materials. Those items circulated were usually books.[2]

A search of the literature revealed that studies have not been made dealing with the Reader's Guide to Periodical Literature even though periodicals have been the subject of many studies.

A survey of the Farmly Billings Memorial Library in Billings, Montana was conducted over a period of three years, November 1959 to November 1962, by Mrs. Marjorie Shepler. Mrs. Shepler, a member of the

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[1]Frederic R. Hartz, "High School Library: A Study in Use, Misuse, and Non-use," Clearing House, XXXVIII (March, 1964), 425.

[2]Ibid.

library staff, measured the frequency of use of the thirty periodicals in their library. She noted the actual requests during that period of time. The ten most requested periodicals were found to be the following:[1]

Periodical	Number of Requests
Life	666
New York Times	592
Time	583
Saturday Evening Post	543
Reader's Digest	486
America	478
Newsweek	441
Today's Health	394
U.S. News and World Report	380
Consumer Bulletin	353

Whether the use of libraries is divided into separate areas or not, a common difficulty is the lack of knowledge or skill in using various tools in the school library.

> The fact that teachers are not aware of library sources, or perhaps even skilled in the use of library tools, may indicate that they need some kind of training, either pre-service or in-service. Besides knowing how to use the library effectively themselves, teachers must be able to tell their students how to do so. . . . It seems that if prospective teachers and school administrators were taught the fundamentals and necessities of a school library in their program of study, there would be more understanding of the total value of library service in the school.[2]

Library Skill and Knowledge in Junior High Schools

According to Webster's Seventh New Collegiate Dictionary, skill is "the ability to use one's knowledge effectively and readily in execution or performance."[3] This suggests that knowledge and skill are

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[1]Marjorie Shepler, "Student Use of Periodicals Surveyed by Montana Library," Library Journal, LXXVIII (March 15, 1963), 1132.

[2]Hartz, "A Study in Use, Misuse, and Non-Use," p. 427.

[3]Webster's Seventh New Collegiate Dictionary (Springfield, Mass: G. & C. Merriam Company, [1965]), p. 815.

very closely related, and for this reason, they are being treated as one subject within the scope of library functions.

In the Burmingham, Michigan "Curriculum Guide for the Library Program, K-6" the purposes of library instruction are outlined, and they apply just as adequately to junior high school as to elementary school.

> The purposes of library instruction are to teach children to use books skillfully, to develop skill in using card catalogs, to build skills in organizing such information as bibliographic data.[1]

One of the most detailed and concise studies found in the literature was undertaken by the Oklahoma Curriculum Improvement Commission, Oklahoma State Department of Education, in 1969. Suggestions for junior high school teachers and librarians were outlined in various areas divided into specific units and plans. These units and plans for the particular subject area included suggestions as to where they should be taught in relation to the subject as well as actual experience.

Not only does the study relate skill to knowledge, but it also explains the importance of experience in development of basic library skills.

> Since skills are best acquired through experience related to learning situations, instruction should arise out of classroom situations requiring search of multiple sources. . . . Few skills can be acquired with one group exposure.[2]

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[1]"Curriculum Guide for the Library Program, K-6" (unpublished survey, Burmingham Public Schools, Burmingham, Michigan, 1963), p. 263. (Microfiche.)

[2]"A Guide for the Teaching of Library Skills, Grades K-12" (unpublished survey, Oklahoma Curriculum Improvement Commission, Oklahoma State Department of Education, Oklahoma City, Oklahoma, 1969), p. 1. (Microfiche.)

This points out the need for continual review and actual experience.

The study suggests a coordinated program involving the librarian and various teachers, depending on the specialized subject area most applicable to a specific library skill. Basic skills and related media are to be taught and reinforced at all grade levels within junior high, grades seven through nine.

Basic library skills for the junior high school include an orientation by teacher and librarian, explanation of the Dewey Decimal Classification System and the card catalog by the librarian, parts of a book taught by the teacher, and encyclopedias developed by both teacher and librarian.[1]

Depending upon the subject area taught by each teacher, consideration should be given to more specialized areas. Various special dictionaries fall under the joint responsibility of the teacher and librarian, so the skill and knowledge taught can actually be a continuous process. Special reference materials, Reader's Guide to Periodical Literature, and the vertical file can be developed by the teacher and/or librarian within the students' capabilities. The skills related to the above areas should be reviewed and taught in each grade level.[2]

Library related media (non-book materials) required more specialized instruction to develop adequate knowledge and skill for their use by junior high school students. The audio-visual coordinator working with librarians and teachers made for an effective team. The two

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[1] Ibid., p. 20

[2] Ibid., p. 22

areas in the A-V category include viewing and listening. Both hardware and software are required, and skill is essential to develop confidence in teacher and student alike, or little or no use will be made of the multi-media approach.

The viewing aspect involved hardware such as projectors for filmstrip, 8 mm loops, slide, overhead, and opaque. The software (media containing information) items include filmstrips, slides, transparencies, micro-prints, microfilms, and microcards.

The listening aspect, usually controlled by teacher and librarian, requires less expertise than the viewing portion of the audio-visual area. The hardware includes record players, tape recorders, and radios. Tapes and recordings can be grouped as software.[1]

The audio-visual approach combines both listening and viewing, and the responsibility of developing the skills in junior high school students rests with the teacher and librarian jointly as outlined in the study. The hardware includes film projectors (16 mm and 8 mm) and jointly as outlined in the study. The hardware includes film projectors (16 mm and 8 mm) and television sets utilizing educational television or video tape, an item of software. Other items of software include the 16 mm and 8 mm films.[2]

A skill often overlooked in the education process and frequently not found in many junior high school libraries is the teaching or utilization of realia. Realia include art objects, models, and specimens. The study conducted in Oklahoma outlines the responsibility

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[1] Ibid., p. 24.

[2] Ibid.

for teachers and librarians jointly. The subject of realia, as defined in the study, also includes copying machines (including cameras), dry mount presses, and other items indirectly dealing with objects. Each student should be given the opportunity to develop his skill and knowledge in this area in all three grade levels.

Due to the knowledge explosion exhibited in our time, research and bibliographic skills are vital. The textbook form of teaching and learning is obsolete as the best means of teaching, according to the writer. Skill can only be developed through practical utilization of knowledge. Community resources can be effectively incorporated in research by junior high school students as well, if teachers and librarians work together in a meaningful manner and become involved with their students.[1]

Each of the major areas outlined above has been more fully defined through specific units and plans for the particular subject as well as detailing suggestions concerning where they could best be taught and by whom in relation to the subject and actual experience.

It cannot be determined which skills are the most important to develop at the junior high school level, but examples of some important ones are involved in the use of the dictionary. They are interrelated with numerous other basic skills required in order to use library facilities effectively.

> The dictionary is very likely the most used and least understood of all books. . . . School children, parents, and even teachers are likely to have many erroneous ideas

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[1] Ibid.

> about and little understanding of the dictionary and how to interpret it correctly.[1]

It has been stated by Morris Leon Mower, member of the English Department at the University of Wisconsin, that "in the location skills, meaning skills, or spelling skills, no item was judged unimportant to know."[2] This was the result of some studies conducted under his supervision.

In a letter written by Victor W. Weidman, Vice President of G. & C. Merriam Company dated July 10, 1963 to Leon Mower, he outlines a possible reason for poor dictionary skills. This could also apply to various other skills as well.

> Possibly the publishers of dictionaries have been assuming a skill on the part of teachers in using this reference tool that was not actually present. I suppose we have been so concerned with students gaining dictionary use-skills that we have overlooked those upon whom we have depended to teach these skills.[3]

This tends to indicate that past training in developing dictionary skills has been incorrectly emphasized as shown by present results. Could not this also be the problem with the development of other library skills?

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[1]Morris Leon Mower and LeRoy Barney, "Which are the Most Important Dictionary Skills?," Elementary English, XLV (April, 1968), 471.

[2]Ibid.

[3]Ibid.

CHAPTER III

PROCEDURES OF DATA COLLECTION

Approach to the Problem

Due to the diversity of the Burns Elementary School District (Lincoln Junior High School), the Hines Elementary School District, and the Burns Union High School District, it was hoped that definite similarities and differences could be located in the total academic program. Definite areas involved in the planning included the relationships of the library education program of the three districts pertaining to library skill, usage, attitudes, and knowledge. The Lincoln Junior High School Library was chosen as the chief facility of the study.

After this decision was made, permission was obtained from the Superintendent of Schools to conduct the research. Support from the Lincoln Junior High School administration and the librarian was also requested. Various survey methods were used to correlate findings of the Burns-Hines students, as many were bilingual and of different socio-economic backgrounds. For this reason, it was decided to utilize achievement test scores separate from the questionnaire to aid in the categorical selection levels. The composite reading score was used as the basis of differences.

The Iowa Test of Educational Development (hereafter ITED) was selected as the achievement instrument for the measurement of the fresh-

man students (ninth graders) at the Burns Union High School. Seventh and eight grade students at the Lincoln Junior High School were evaluated on the basis of the Stanford Diagnostic Reading Test from the Iowa Test of Educational Development. Inasmuch as the reading ability was thought to play a major role in library usage, these test scores were converted to the national percentile ranking from the comparative grade level of general reading ability. These scores were the basis of comparison as far as achievement scores were concerned.[1]

The questionnaire, separate from achievement reading scores, was developed to compare interests and library utilization. No effort was made to verify the accuracy of the students' approximate grade point average (hereafter GPA) from the previous year. The intelligence quotient (IQ) was not used in any way in this study. Magazine circulation was not evaluated, as this area of the questionnaire was used primarily to designate interest and popularity of certain subscription peridocials at the Lincoln Junior High School.

Administering the Questionnaire

The questionnaire was administered to each of 401 students in separate groups. All seventh and eighth grade students were given the questionnaire in their science classes, primarily on one day. There was no time limit, but each question was read aloud while the student read it silently. He then marked the answer of his choice.

All ninth grade students were given the questionnaire in much the same manner. The writer administered all questionnaires in all

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[1]A graph showing the relative reading distribution in the three grades is found in the Appendix.

three grades with specific help from the seventh grade science teacher who administered many questionnaires to her students within the class time. A follow-up campaign was conducted until the result of 100 per cent return was achieved.

The questions asked were concerned with all phases of library facilities which might possibly be thought to influence the student interest and usage. This included library attitudes; estimated usefulness of various aspects of the library facility, including periodicals of interest to the students; and an estimate on the part of each student as to the frequency in which he used specific areas and/or methods within the library.

A third area included library skill and knowledge. Specific questions designed to have one "best" answer were written to evaluate library knowledge in certain aspects of the library. These questions included an answer "I do not know" to eliminate or reduce the possibility of guessing the answer.

Each group of questionnaires was administered within the respective grade level and returned upon completion prior to leaving the classroom. Although names were not used in the compilation of results, the first page of the instrument was given a corresponding number for each student. The only use made was to ascertain whether or not all questionnaires handed out had been answered and returned. This method worked very well, assuring total return of all questionnaires and complete follow-up. Only one student in the total group refused to answer the questionnaire.[1]

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[1]A sample of the questionnaire is found in the Appendix.

Statistical Data Preparation

Since a computer program was being utilized, the questionnaire was designed to group specific responses made by each student. Each question was so structured that a mark next to the most accurate response was tabulated as the student's answer. It was felt that a multiple choice type of questionnaire would help the student define his answer in a concise, yet meaningful manner. It was also felt that this would provide more accurate results rather than necessitating an interpretation of what the student was actually trying to say, especially since many of the students' ability to read was poor.

The questionnaire involved five variables important to the comparison of research results. The approximate grade point average (GPA) was omitted from the study and replaced by the achievement test score based on the approximate reading level of each student, in many cases. These five variables were chosen to be compared with each other and against twenty-five factors pertaining to the skill, knowledge, attitude, and usage of the students involved in the study. This excluded the magazine factor as a measure of specific interest which was handled as a separate item in the data findings and interpretation.

The first variable involved the specific school district to which the student belonged. The four choices included: (1) Lincoln Junior High School, (2) Burns Elementary School District, (3) Hines Elementary School District, or (4) Other, including transfer students who had not attended any of these districts previous to the school year 1971-72. This question was asked to determine the number of students involved in a particular school situation of the previous year.

The second variable was the present grade level of each student. The study involved seventh, eighth, and ninth grade students, and this variable was designed to tabulate the number of responses from each grade. This question was not independent of the first variable, as those marking Burns Elementary School District would only have been seventh grade students. Those marking Hines Elementary School District involved seventh grade students attending Lincoln Junior High School, eighth grade students attending Lincoln Junior High School, and ninth grade students attending Burns Union High School. Those marking Lincoln Junior High School included eighth grade students who were attending their second year and ninth grade students from Burns Union High School who had attended Lincoln Junior High School in the previous year. This question gave a definite breakdown in grade attended, regardless of school previously attended.

The third variable was sex. Irrespective of grade, school, status, or background, this variable merely gives the number of males as compared to the number of females included in the study.

The fourth variable was estimated grade point average (GPA). This variable was tested against each of the factors but was not used in the chi-square results. In that phase of the research findings the achievement test scores were used as the fourth variable, except for a few cases, since the latter was deemed more accurate than a mere estimate.

The question for variable five applied to a formal library skills or library science class. Lincoln Junior High School was used as the representative facility on this point. A library skills class had been taught as a unit in the Hines School, but the Lincoln Junior

High School was considered to have a more adequate class, guided by a specific library curriculum as defined in this study.

The twenty-five factors which were tested against the five variables included three major categories. The first category included five factors dealing directly with library attitudes. The factors were to be rated from one to seven representing areas from "very useful" to "of little use." They were: (1) hardbound books, (2) paperbound books, (3) the card catalog, (4) periodicals, and (5) vertical file materials. A list of forty periodicals subscribed by the Lincoln Junior High School was included to indicate additional areas of interest. This item was compared with each of the five variables but was not compared with any of the other factors.[1]

The second category, library usage, included six factors dealing with frequency of use in selection of materials. It included selection of materials from the card catalog, the Reader's Guide to Periodicals, materials selected by browsing, dependence on the librarian, and whether the materials were checked out of the library or if they were used within the library.

The third category, library skill and knowledge, was most difficult to break down into separate factors. Thirteen factors dealing with specific library techniques or knowledge were represented by one correct answer and a variety of incorrect answers. Each question reduced guess-work by providing the possibility of an "I do not know" answer. These factors included knowledge of finding different title, author, and subject cards in the catalog; filing; use of the abridged

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[1]A table summarizing the results is found in the Appendix.

Reader's Guide to Periodic Literature under subject heading and periodical articles; use of reference books, including dictionaries and atlases, career descriptions, and life sketches of important Americans.

The significant differences between the variables and the factors involved in the study were evaluated through the use of the statistical technique of the chi-square. The compilation and analysis was conducted through the use of electronic data processing.

CHAPTER IV

FINDINGS AND INTERPRETATION OF DATA

This study was conducted among all seventh, eighth, and ninth grade students in three major categories. These categories included library attitudes, estimated usefulness of the library facility, and library skill and knowledge. Each category was studied in relation to five variables. These variables were: (1) school attended in 1970-71, (2) grade level in 1971-72, (3) sex of the student, (4) reading ability as shown by the ITED and estimated grade point average, and (5) participation in a formal library science class. These five variables were compared with numerous items within the three major categories. Some very interesting relationships were discovered from this study.

School Attended, the First Variable

The study involved 400 students who had previously attended four general school areas. Students attending Lincoln Junior High School (hereafter LJHS) in the 1970-71 school year numbered 156 students who then were seventh and eighth grade students. Burns Elementary School District claimed 68 students who were in the sixth grade in 1970-71 and Hines Elementary School District had 132 students in grades seven and eight in 1970-71.

When the study was conducted in the 1971-72 school year, the students at Hines Elementary School had combined with the seventh and eighth grades at LJHS to form a "cooperative system." Other students involved in the study numbered forty-four, and they were transfer students who had not attended the Burns-Hines Schools until the school year of 1971-72, or at least had not been enrolled in the previous year.

Grade Level, the Second Variable

The seventh grade students participating in the study numbered 118. They had been involved in elementary schools operating in Burns and Hines in 1970-71, except for transfer students new to the area. These students were combined for the first time in the LJHS in 1971-72.

The eighth grade students answering the questionnaire totaled 141. They had come from the Hines Elementary School District, transferred new to the area, or had been at LJHS from the previous year if they resided within the boundaries of the Burns Elementary School District.

Students attending ninth grade were enrolled at the Burns Union High School (hereafter BUHS). These 140 students had come from the Hines Elementary School District, LJHS, and new transfers. For these students, their adjustment was similar to the students being combined in grades seven and eight from the two school districts for the first time.

Sex, the Third Variable

Irrespective of grade level, school attended, status, or background, the students involved in this research project were asked to note their sex. Of the 400 students responding to the questionnaire,

206 (or about 52 per cent) were males, and 194 (or about 48 per cent) were females. This variable was compared with various items within the three major categories to determine the relationship of students' sex to them.

Grade Point Average, the Fourth Variable

The estimated GPA was compared with each of the factors within the study, but it was not used in the chi-square results. The variable used in the chi-square correlation replacing the GPA was the resulting scores of ITED.

The results of the reading scores showed a large variation in reading ability. The total reading score for the seventh grade students at LJHS ranged from 2 per cent on the national scale to 96 per cent. The eighth grade scores of these students ranged from a low of 2 per cent to a high of 98 per cent on the national scale. These results were from the Achievement Series of ITED.

The reading average scores expressed in a national percentile from ITED for the ninth graders at BUHS ranged from a low of 3 per cent to a high of 99 per cent. It is obvious that an extremely wide range of reading problems exist among these students, as exhibited by the low reading scores.

Here, as in most other schools, the writer feels that some students tend to learn in spite of the adverse conditions in the educational system. Others never seem to be able to rise above the handicap of poor reading ability. All aspects of learning suffer with these lower ability students.

Library Attitudes

Attitudes are extremely difficult to measure and a simple questionnaire cannot give detailed feelings of the students responding; however, an indication of general attitudes was shown by this study. Each student was asked to indicate his thoughts as to how useful five items were in the library. A scale ranging from "very useful" to "of little use" was provided which corresponded with numbers one through seven, respectively. The student responded by listing the number most closely expressing his opinion.

The five items listed included hardbound books (other than texts), paperbound books (other than texts), the card catalog, periodicals, and vertical file materials. The results showed that the card catalog had no significant relationship to any of the five variables explained above. This same condition applied to periodicals as well.

Hardbound Books, the First Factor

There were 401 students responding to this question. The majority of the students indicated that hardbound books were "useful" to "very useful," in their opinion. Those answering on the scale of one through three totaled 229 students, or about 57 per cent. Only 25, or approximately 5 per cent said they were "of little use."

Usefulness of hardbound books was found to be significant at the 05 level in relation to achievement scores in reading when computed in a chi-square. It was found that the total reading scores made very little, if any, difference in the students' attitudes concerning hardbound books. The two groups of students who revealed that hardbound

books were "useful" were those whose achievement scores on ITED were in the 60 to 69 percentile, and those whose scores were below 19 per cent. In comparison, the students who said that hardbound books were "of little use" were in the bottom twenty-nine percentile of national rated reading scores. This indicates that the students in the higher achievement levels pertinent to reading prefer hardbound books. Those in the lowest level do not place a great deal of importance to hardbound books.

Paperbound Books, the Second Factor

In contrast to hardbound books, fewer students indicated that paperbound books were useful. Those rating paperbound books from "useful" to "very useful" involved 182 students, or approximately 45 per cent; a decrease of 12 per cent from those favoring hardbound books. Twenty-six students did not respond. This implies that the hardbound books are somewhat more desirable than paperbound books to this particular group of students.

It was shown by the chi-square correlation that the attitude toward the use of paperbound books in relation to the student's sex was significant at the 05 level. Although more students prefer hardbound books over paperbound, slightly more boys than girls found paperbound books desirable. The study showed that 43.6 per cent of the female students rated paperback books from "somewhat useful" to "of little use" as compared to 36.1 per cent of the males who placed the paperback usefulness in this range. This reveals a difference of 6.5 per cent more females rating this type of book "of little use."

Conversely, more males place usefulness to paperbound books than do females in this study.

> Perhaps the attitudes toward reading and books are affected by the colorful covers, smaller size, and/or ease of handling of the paperbacks. Clothbound library books do not lend themselves to being tucked into a pocket for easy carrying [at least for the boys]. . . . Perhaps [clothbound] books impart negative feelings, because they represent assignments and homework rather than items of choice and pleasure. In the case of the disadvantaged students, the clothbound books certainly are not a real part of the world outside the school and the classroom and as such are not looked upon with favor.[1]

It is not known by the writer if these reasons have any bearing on the students' attitudes toward paperbound books. Although this may be true of some students, no indication is made in this study to substantiate either explanation.

Card Catalog, the Third Factor

The results of comparing the responses of students concerning the card catalog with other factors and variables showed no significance. The card catalog was listed as the most useful factor of the five in the library attitude section of this study. Slightly more than 50 per cent of the students' responses indicated the card catalog as "very useful," in their opinion. Twenty-one students said the card catalog was "of little use," representing about 5 per cent of those participating in the study.

The percentage of students who rated the card catalog "useful" to "very useful" was 73 per cent, or 302 students. The remaining

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[1]L. F. Lowery, "Paperbacks and Reading Attitudes," The Reading Teacher, XXI (April, 1968), 623.

students listed it as something less than useful, with the exception of the five who did not respond. The results echo Jesse Shera's words when he stated that the card catalog is "an imperfect key which unlocks only certain doors."[1] Some students tend to feel that it is something even less than this.

Periodicals, the Fourth Factor

The students' response to the question indicated that there were approximately the same number of students who listed the value of periodicals in each of the seven ratings. Fifty-seven students said they were "very useful." This represents about 14 per cent response. Most of the students rated them "useful." This accounted for almost 15 per cent response, or 79 answers. Sixty-eight students felt that periodicals were "somewhat useful," while forty-five (11 per cent) found them "of little use." Five students did not respond.

Table I gives the students' attitude concerning the subscription periodicals received at the LJHS. The students were asked to indicate their first ten choices of titles. The top nine for each student were used in compiling the table. The eighth and ninth grade students who attended LJHS in 1970-71 listed their first five choices in order of frequency, as follows: Life, 66.03 per cent; Look, 58.33 per cent; Teen, 50.00 per cent; Seventeen, 48.08 per cent; and Reader's Digest, 54.59 per cent.

The seventh grade students who had attended Burns Elementary School gave their choices listed in order of frequency as follows:

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[1]Perrine, "Catalog Use Study: The Imperfect Key," p. 115.

Life, 58.72 per cent; National Geographic, 45.59 per cent; Boy's Life, 44.12 per cent; American Girl, Good Housekeeping, Seventeen, and Teen with 42.65 per cent each.

The students in all three grades (seven through nine) who had attended Hines Elementary School in 1970-71 voiced their preference as follows: Life, 60.61 per cent; Hot Rod, 52.27 per cent; Field and Stream, 50.00 per cent; Sports Illustrated, 49.24 per cent; and National Geographic, 47.73 per cent. All three groups, regardless of school attended, rated Life as their first choice. The Hines students leaned toward periodicals dealing with the outdoors, and most students favored those dealing with hobbies or an escape from subjects required in the schools.

As a combined group, the male population of the three schools, grades seven through nine, listed their top preference. They chose the following periodicals listed in order of frequency: Hot Rod, 77.67 per cent; Boy's Life, 72.82 per cent; Field and Stream, 71.86 per cent; Sports Illustrated, 67.48 per cent; and Life, 59.22 per cent. In contrast, the girls rated their preference as Teen, 86.08 per cent; Seventeen, 83.51 per cent; American Girl, 80.93 per cent; Life, 68.56 per cent; and Good Housekeeping, 65.46 per cent. The students seemed to choose periodicals dealing with their personal sex-related interests.

The periodicals of most interest to the seventh grade student population were Life, 63.56 per cent; Boy's Life, 48.31 per cent; National Geographic, 46.61 per cent; Hot Rod, 42.37 per cent; and Teen, 41.53 per cent. The number of males in this group exceeded females, resulting in a higher percentage favoring the male-oriented periodicals shown above.

The students attending the eighth grade also listed Life as their first choice. The percentage of students who listed this as top priority was 67.86 per cent. They listed the other four as Look, 55.32 per cent; Boy's Life, 48.94 per cent; Field and Stream and Teen with 47.52 per cent each.

The ninth grade students at Burns Union High School 1971-72 listed their choices. They favored Life with 67.86 per cent response. Look and Sports Illustrated received 55.71 per cent each; Seventeen had 54.29 per cent. Reader's Digest and Teen were rated 47.86 per cent. These results indicate that there was no significant difference in the students' interests and attitudes concerning their choice of periodicals in relation to their grade level.

When the estimated GPA was compared to the responses on periodical choice, it was found that students in the "A" group chose Life, National Geographic, Look, Reader's Digest, and Teen as their top five choices. The "B" group listed Life, Teen, Seventeen, Reader's Digest, American Girl, Look, and Boy's Life. The students in the lowest academic area listed their five favorite periodicals as Hot Rod, Flying, Life, Boy's Life, and Look. A complete breakdown is found in Table I.

Students were questioned pertaining to their participation in a formal library science class. Of the 398 responses, 207 said they had been involved in such a class, but 191 stated they had never participated. Those whose answer was affirmative rated their periodical choice as follows: Life, 67.63 per cent; Look, 55.56 per cent; Seventeen, 50.24 per cent; Teen, 49.76 per cent, American Girl and Boy's Life, 44.44 per cent.

The students responding negative to the library science question rated their choice in periodicals as follows: Life, 59.69 per cent; Boy's Life, 46.60 per cent; Hot Rod, 46.60 per cent; National Geographic, 46.07 per cent; and Field and Stream, 44.50 per cent.

It may be concluded from the foregoing results that the students taking a library science class were generally more studious in attitude than those who did not. The students who said they had not been involved in a library science class were more interested in the periodicals dealing with the personal interests of their age group, indicating an attitude of disinterest in the more scholarly periodicals from a formal educational standpoint.

Each group, without exception, chose Life as their first choice indicating that it is possible to have a periodical that will interest the total junior high school population. It may be due to the content of pictures found in this particular periodical, capturing the students' interest inasmuch as reading ability seems to have no bearing on this particular periodical. The study indicates that poorer ability students tend to use periodicals that compliment their personal interests; whereas, students with average or above average reading tend to only lean toward this type of periodical. The writer notes that the results are not conclusive on this point.

Although the study did not provide a correlation between reading ability and use of periodicals, the majority of students indicated that their main reason for reading the periodicals subscribed by LJHS was for personal interest and hobbies. The boys indicated that 90.7 per cent used periodicals for this purpose, while 78.5 per cent of the girls gave the same reason. It is assumed from these results that very

little assigned work, if any, was given in the classroom that extended to use of periodicals found in the library. This accounted for the non-use of some of the scholarly periodicals and could have been the reason that students were not familiar with them. No information is available on the use of periodicals by the school faculty and staff, but the results would likely be similar to those exhibited by the students.

Vertical File Materials, the Fifth Factor

The vertical file found in the LJHS in 1970-71 was just being developed. Pamphlets, charts, and other various materials were included, but few students utilized these materials in comparison to the shelfed media consisting of periodicals and books. There were 401 students involved in this study, and only five did not respond.

Students rating the vertical file materials "useful" to "very useful" totaled 180, or 45 per cent, and the remaining 55 per cent answering this question rated vertical file materials something less than "useful." This ranged from "somewhat useful" to "of little use." We have no statistics on the number of times the file was utilized by the students, but this item did not receive a great deal of use in the Lincoln Junior High School Library.

A chi-square correlation was run by electronic computer to determine the relationship between the grade attended by the students and their attitude concerning vertical file materials. It was found to be significant at the 05 level. The complete results are found in the appendix. The highest percentage of seventh grade students attending LJHS was 19.8 per cent rating vertical file materials as "useful." Those rating them "very useful" were 18.8 per cent, and this same number said they thought vertical file materials were "somewhat useful."

Only 9.9 per cent said they were "of little use."

The eighth grade students at LJHS rated vertical file materials as "useful" with 26.6 per cent response; whereas, 18.8 per cent said they were "very useful." Sixteen students, or 12.5 per cent said the materials were "somewhat useful" and 11.7 per cent found them "of little use." The seventh and eighth grade students rated their usefulness in the same order of frequency.

The ninth grade students at BUHS rated the vertical file materials differently than did the LJHS students. Most responses, 20.0 per cent, showed this area as 'somewhat useful" and 16.0 per cent said they were "useful" or "of little use." Only 6.4 per cent felt that the vertical files were "very useful." It is not known by the writer how developed this area is in the Burns Union High School library, but the results indicate a greater vertical file value at the seventh and eighth grade level. This may also be a result of its unavailability to students previous to the 1970-71 school year as it is a relatively new addition to the LJHS library.

Library Usage

This study was used to correlate the attitudes of students in some categories with their actual useage in addition to determining what was utilized by the students and what was not. It was hoped that definite conclusions could be validly reached indicating areas of improvement in the use of the library facility. Some very interesting discrepancies were found between the value of the card catalog, for example, and the students' actual use of it. The educational correlation of this area is in doubt. The writer feels that attitudes are

of no real consequence if they cannot be carried over into actual use.

Use of the Card Catalog, the Sixth Factor

The student attitude concerning the card catalog was generally given as "very useful," as shown by the results of this study. Seventy-three per cent of the participating students were of that opinion. Their actual use; however, reveals that they are not utilizing it very often. Only 9 per cent said they used it "very often." This, in and of itself, indicates a problem in correlating their opinion and their use of the card catalog.

Twenty-five per cent, 100 students, said they used the card catalog "occasionally." Slightly more than 25 per cent, 102 students, indicated that they "almost never" use the card catalog. It is apparent that the students have been told that the card catalog is very useful, but it is questionable as to whether or not they know how to use it. Their inability to utilize it effectively may be the major reason for non-use. No doubt they have been generally exposed to it, but they do not recognize its benefit to them; thus enabling them to find library materials otherwise inaccessible.

It is possible that the teaching staff as a group are not fully aware of this problem. Observation by the writer concerning the conditions at LJHS convinces him that most of the teaching staff do not give their students even minimal experience in the library. Perhaps they, as educators, are not convinced of the facility's application to their subject area and have not been given the support necessary to extend their classroom activities into the library more than they do. The staff may not be aware of the library materials available in their subject area specialty so they can advise their students to use them

effectively. No doubt, improvement in this area was occurring in the 1971-72 school year.

In all fairness to LJHS, a chi-square correlation was made of the use of the card catalog in relation to the school attended in 1970-71. Lincoln students were occasionally using the card catalog at this time, according to the results. Fifty-one students, or 32.7 per cent of those attending LJHS at this time disclosed their "occasional" use, 12.8 per cent used it "often," and only 7.7 per cent used it "very often." Thirty-three students, or 21.2 per cent, said they "almost never" used the card catalog.

The Hines students showed the same relationship as those at LJHS. Twenty-eight students, or 21.4 per cent used it "occasionally," 9.9 per cent used it "often," only 6.1 per cent used it "very often," and 35.9 per cent said they "almost never" used the card catalog.

More of the Burns Elementary School students of 1970-71 used the card catalog "often" to "occasionally." They disclosed their use of the card catalog as follows: 20.6 per cent "often," 19.1 per cent "occasionally," 16.2 per cent "almost never," and 8.8 per cent "very often." It is apparent that the Burns students received a better education in developing the card catalog skill than did the other students. A greater emphasis on this library tool is necessary in all three school districts if the students are to become more efficient users of the library, in light of the above findings.

Reader's Guide to Periodicals, the Seventh Factor

The students indicated that their greatest use of periodicals, by far, was for personal interest or hobbies. Those periodicals requiring minimal reading were chosen as favorite ones by every group

of students in this study.

The study shows that it is little wonder that the students have not discovered the world of periodicals, for they are not familiar with the Reader's Guide to Periodical Literature. Many of the students had no idea that this reference existed. The majority of students, 245 or over 61 per cent, said they "almost never" use this reference to periodicals; yet, each of the libraries has this index available on open shelves.

This study indicates that this reference tool is used least of any in the library. The writer assumes that this has not been taught in the library science classes, as numerous students attending them did not know about the Reader's Guide. Only thirty-seven students of the 401 in the study used the Reader's Guide "often" to "very often." Thirty-nine said they used it "occasionally."

The grade level of students was compared with the selection of articles from the Reader's Guide. The chi-square significance was found to be at the 05 level. The students responding to the non-use of this source was quite revealing. Of the 118 seventh grade students involved in this study, 65 or 64.4 per cent said they "almost never" used this reference tool. The eighth grade students showed 59.4 per cent in this category, and the ninth grade students had 61.6 per cent who did not use this source.

The study showed that not even one ninth grade student used this reference tool in finding articles of interest in available periodicals within the library "very often." The results indicate that fewer students use this index to periodicals on a regular basis. The trend is for the older students to use it less, indicating that

they possibly were taught to use the Reader's Guide in the elementary grades, but they strayed away from it as they advanced through the junior high school age and into high school.

It would be interesting to see how many of the teachers in the three districts were familiar with the Reader's Guide. The result could indicate one reason why the students were not familiar with this tool, that reason being that those expected to teach this to the students may not have the working knowledge required to use it themselves. The educational skill acquired by the students who used this source would undoubtedly enable them to more completely pursue their personal interests through periodical use.

Browsing, the Eighth Factor

Although students tended to be of the opinion that the library was made up of books and periodicals and the major finding tool of greatest use was the card catalog, most of them selected their library materials by browsing. This study showed that the interest of students, rather than reading ability or estimated GPA, indicated the type of periodical they use. The same reasoning applied in book selection by browsing. The students tended to read what their personal interest indicated, if they read at all. This was especially true of average and above average students.

The relationship of the students' GPA and their selection of materials by browsing showed a chi-square significance of 05. Twenty students, or 44.4 per cent of the upper 10 percentile in estimated GPA, said they "very often" selected materials by browsing. Ten students, or 22.2 per cent, and 6 students, or 13.3 per cent, in this category selected materials "often" but did not include the "very often" choice.

They utilized them "often" and not quite "very often" as the choices were rated.

Most of the "B" students also selected their library materials by browsing. Over half of the students chose this method "very often." Sixty-five students, or 50.4 per cent of this GPA were in this category. The students choosing this method from "often" to "very often" totaled 87.7 per cent.

The students most often rated as average, falling in the GPA category of "C," also selected their library materials by browsing. One hundred and nine students, or 75.3 per cent of them, said they found the materials they used by browsing "often" to "very often." Even the students in the lowest GPA chose their materials by using this method. Over half, 52.4 per cent, employed browsing "often" to "very often."

This indicates a deficiency in the use of library finding tools. The card catalog was not used by many students, and those who used it more often selected the library materials of interest to them by browsing. Periodicals were chosen the same way by all groups of students, and it is the opinion of the writer that they have not been properly taught to choose their periodicals by any other means than browsing. This is primarily based on the findings of this research project.

Librarian Dependent Students, the Ninth Factor

Regardless of school, grade, or socio-economic background, each student was asked to rate their dependence on the librarian in helping them find the library materials desired. Of the 401 students involved 74, or about 18 per cent, said they depended upon the librarian "often" to "very often"; 110, or 22 per cent, depended upon the librarian

"occasionally"; and another 110, or 22 per cent, said they "almost never" depended on the librarian in this function.

Most students employed the method of browsing in preference to asking the librarian what was available. This could range from knowing what they wanted to being reinforced not to ask the librarian for help, due to her other responsibilities. The study hall-detention use of the library may have had a negative effect on the students in discussing their interests with the librarian. No statistics are available from this study to substantiate any of the above assumptions. This could be the subject of a companion follow-up study.

The dependence of students upon the librarian was compared to estimated GPA in order to determine what relation GPA had on the student in this regard, of any. The chi-square significance was found to be at the 05 level. The largest group of students in each grade point level was found to be in the category of "almost never" when depending on the librarian to find materials for them. The percentage in each group was found to be as follows: 28.9 per cent of the "A" students, 29.5 per cent of the "B" students, 24.7 per cent of the "C" students, and 33.3 per cent of the "D" students.

An interesting comparison to this with those who said they "very often" depended on the librarian to select materials for them showed that the lower the GPA, the more dependent these students were upon the librarian. Only 2.2 per cent of the "A" students fell in this category; whereas 5.4 per cent of the "B" students were "very often" librarian dependent. The "C" group of students had 6.3 per cent dependent upon the librarian, and of the "D" students, 9.5 per cent were in this category. The other categories were generally

equally divided into the estimated GPA's with regularity, i.e. their percentages are about the same.

Those students who are librarian dependent, for the most part, are in the lower GPA levels. Their reading ability is usually much lower than average, even for this group, and their interests are usually more toward sports and the outdoors for boys and fashions for girls. Most students prefer browsing over librarian selected materials, as shown by the research results.

Library Check-Out of Materials, the Tenth Factor

Each student was asked to reveal how often he or she checked materials from the library. The comparison of sex of the student and the use of library materials outside the library facility was found to be significant at the 05 chi-square level. Most of the students make frequent use of this service; however, more girls seem to check materials from the library than boys.

One-fourth of the girls answering this question said they used this service "very often." Less than one-sixth of the boys used the service this frequently. The study showed that about one-fifth of the boys and girls, separately, estimated their use of library check-out of materials as "often."

It was further found that more than twice as many boys, percentage wise, than girls said they "almost never" checked out library materials. This would indicate that interests of academic learning were of greater concern to girls than to boys in this study, although most students take advantage of this library service quite frequently.

Use of Materials Within the Library, the Eleventh Factor

Through the use of the electronic computer, the frequency in which library materials were used within the facility and the 1970-71 school year estimated GPA was compared. In comparing the results with those of checking out library materials, many more students preferred the latter method. One of the reasons may be the physical location and space limitations which impair the use of library materials within the facility. At least, the students may tend to feel this is the case.

The LJHS library has an approximate capacity of thirty students. This means that about 10 to 20 percent of the total student-body could utilize the facility at any one time. This alone could account for the fact that materials are more often utilized outside of the library facility.

The students in the "A" GPA group were typical of almost every GPA group. In every case, students less often used materials within the library when compared with checking them out. The conclusion of this portion of the study was that the GPA had little or no relationship to the students' use of library materials within the library.

Library Skill and Knowledge

This portion of the research study is undoubtedly the most difficult to analyze. Many of the questions asked of the students were very specific and designed to determine how effective library training had been. Only one answer was correct in each case, and this answer has been indicated with an "x" on the questionnaire[1] to facilitate analysis. Many of the questions were omitted in the chi-square analy-

[1]See the Appendix for the complete questionnaire.

sis inasmuch as they were found to be of little or no significance. Rather than separate these into separate factors, it was deemed more appropriate to group the questions according to their subject content.

Title Card and the Card Catalog

This study showed that most students felt that the card catalog was of great importance to the library, although they said they did not use it. Basic questions were formulated in an attempt to determine the major problem in using the card catalog. From the question involving a title card for the book 30 Seconds Over Tokyo, over 50 per cent of the students said there would not be a title card, but the title would be filed under the author's name or subject heading instead. Only about 20 per cent answered the question correctly, indicating that the title would be under "thirty" (the number spelled out).

When asked to determine the location of the book 21 Balloons in relation to the book 20 Elephants as filed in the card catalog, almost 50 per cent of the students said it would be placed before. Only about 21 per cent answered the question correctly by indicating that it would come after the book 20 Elephants.

A few more students correctly responded to the question concerning the file card for the bock . . .And Now Miguel. Although slightly more than 36 per cent said that there would not be a title card but would, instead, be filed under the author's name or subject head ing, only 24 per cent correctly stated that it would be found under the word "And." The chi-square significance of this question in comparison to sex revealed that 19.1 per cent of the males answering this question did so correctly. Over one-third more females, or 30.8 per cent, answered this question correctly. The significance was at the

05 level. The results indicate that more girls than boys knew how to use title cards in the card catalog. This could be due to their greater academic interest and more frequent use of the library.

The title card for the book St. John of the Cross was more easily found by students as indicative of the answer to this question. Although 133 students, or about 32 per cent, said it was found under the tray "St-Ta," 111 students, or about 27 per cent answered the question correctly by stating that the card would be filed under "Saint e-Saint pet." Many students evidentally realized that the card would be filed under the word "Saint" rather than the abbreviation "St."

It was thought that the formal library science class may have had an influence on this type of question. A comparison between this question and formal library science was computed, and it was found to be significant at the 05 level. The findings revealed an advantage of 4.7 per cent in favor of those who had taken the class. Those students who answered the question correctly in the chi-square computation totaled 103, indicating that 8 students did not answer the question on formal library science. Those answering revealed that 31.3 per cent of the students giving a correct answer had taken a library science class. Only 26.6 per cent who had not taken the class answered the question correctly. This indicates that students who had taken library science knew significantly more concerning the use of the card catalog as far as title cards were concerned. Some of the findings where there was no significance revealed much the same conclusion.

Author Card and the Card Catalog

Only one question was contained in the questionnaire dealing directly with the author card and the tray in which it would be filed in the card catalog. Since most author cards are filed strictly alphabetically, a special question requiring definite knowledge of filing rules was selected. The students were asked to explain where the author card for Albert L. McCrady would be filed. Since the ruling gives "Mc" as "Mac," special knowledge was thought to be essential to answer this question correctly. There was no chi-square significance concerning this question, but two assumptions can be made from the results: (1) most students recognize that two answers were more apparent than the others, and (2) approximately as many students listed it filed in "Maca-Mae" as in "M-Maca." The writer concludes that the results show the questionable nature as to the validity of this item and no definite trend can be shown.

Subject Heading and the Card Catalog

Two questions were included in this study specifically pertaining to subject headings and the card catalog. The question dealing with the order in which subject headings were filed in the card catalog was omitted from this study. A great deal of confusion evolved from this question as most students could not understand it; therefore, the results were not computed.

The other question asked the students to indicate the meaning of words in red or in all capital letters at the top of some library cards. Both systems are in use at the LJHS library since the librarian did not have access to a red typewriter ribbon at one point while cataloging. This resulted in the use of all capital letters rather

than red lettering.

The study revealed that numerous students did not know that this had reference to the subject headings. Only about 22 per cent of the students participating in the study answered this question correctly. Most students thought this pertained to the title. There was little significance shown in any area of comparisons with this question when computed with chi-square.

The Reader's Guide to Periodic Literature

We have already seen that very few students were familiar with the Reader's Guide. Two questions pertinent to the skill and knowledge of the students in the utilization of this reference tool were included in the study. Both of the questions dealt with the manner in which subjects were filed and cross-referenced. In both cases, more students answered these questions correctly than any other incorrect answer; however, less than half of the students in each of the two questions answered them correctly.

A chi-square correlation between the grade each student attended and his ability to find additional subject headings for a major subject in the Reader's Guide was significant at the 05 level. More eighth grade students gave correct answers, percentage wise, than any other grade in this study. Seventh grade students indicated that their group knew the least of any of the other two concerning Reader's Guide usage. Thirty-seven seventh grade students, or 36.6 per cent answered the question correctly. Twenty-nine of these students, or 28.7 per cent said they consulted the librarian.

In contrast, 51.6 per cent of the eighth graders and 48.8 per cent of the ninth grade students answered correctly. The next largest group to answer--21.1 per cent of the eighth grade and 25.6 per cent of the ninth grade--said they did not know the correct answer. More eighth grade students than ninth grade students consulted the librarian. This indicates a trend toward asking for less help and knowing less in the higher grades than in each preceding lower grade. There does not appear to be sufficient opportunity provided to the students on any of these grade levels to ensure them of correct and efficient use of the Reader's Guide, in light of the research findings.

Reference Skills and Knowledge

One item within the questionnaire required each student to list the source which would tell him how to use the word "insouciance" in a sentence. The definition as listed in Webster's Seventh New Collegiate Dictionary is "a lighthearted concern."[1] The writer felt that students familiar with dictionary use would be able to answer this question correctly with no difficulty. Other possible answers included a grammar, an encyclopedia, and the World Almanac. It was encouraging to note that more students in each grade level answered this question correctly than any other one. The large majority of students gave the answer as either a dictionary or a grammar.

Seventh grade students who answered this question correctly totaled 45.5 per cent and eighth and ninth grade students answering the question correctly were 59.4 per cent and 59.2 per cent, respectively. With some reservation, the writer concluded that eighth and

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[1]Webster's Seventh New Collegiate Dictionary, p. 438.

ninth grade students were slightly more knowledgeable than seventh grade students in dictionary skill. It is rather puzzling; however, to note that the same trend is shown in the percentage of students who answered this question by giving the grammar as the recommended source for using "insouciance" in a sentence. There may be some relation to this and the stress placed on grammar within the seventh grade English classes at LJHS. Extended dictionary use in all classes for items other than correct spelling would tend to reinforce the skill and knowledge of dictionary usage, in the experience of the writer.

Mower and Barney found that "even teachers are likely to have many erroneous ideas about and little understanding of the dictionary and how to interpret it correctly."[1] From this study it is not possible to conclude that this is the case, but it points up the fact that only about half of the students are really familiar with the dictionary. A portion, at least, of the responsibility rests upon the teacher as this skill has obviously not been taught as well as it could be. Teachers will not put forth the effort to teach this skill or any other skill if they do not feel comfortable about it. Experience has shown this to be the case in teaching situations, and the writer feels that quite often the essential matters of education are often lost in the process, for the instructor is not convinced of the importance of such a skill pertinent to the welfare of the student. Dictionary skill is an excellent example of this fact, as indicated in this study.

Students were asked to indicate which reference book would be the most useful in locating a specific example. Their choices were:

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[1]Mower and Barney, "Important Dictionary Skills?," Elementary English, XLV, p. 471.

an encyclopedia, an atlas, a globe, and a geography text. The study showed that as the grade level increased, the number of students correctly indicating the atlas as the reference to be used increased in direct proportion. Of all seventh graders answering this question, 38.6 per cent gave the correct answer. The sum of eighth and ninth grade students who gave the correct answer was 57.0 per cent and 65.6 per cent, respectively. Actual experience in the development of this skill as well as reinforcement of learning may account for the continued increase. There is not sufficient information given in this study to definitely evaluate the effect of experience compared to teaching technique, and this could be a subject for development in a future study. The curriculum requirements in geography and history classes would definitely affect the answers given to this question and may be a factor in the proficiency of older students. The chi-square results were found to be significant at the 05 level.

The last question in the study pertained to reference books containing a life sketch of Richard M. Nixon, President of the United States of America. Students were asked to indicate which one of the following possibilities was the most likely as a reference book to contain a life sketch of President Nixon: a comprehensive alamanac, an encyclopedia, Who's Who in America, Statistical Year Book, and Dictionary of Phrase and Fable.

The chi-square results were found to be significant at the 05 level when the answers to this question were compared with the school previously attended and whether or not the students had been enrolled in a formal library science class. Most of the students who gave an answer rather than "I do not know" listed the correct answer as Who's Who in

America.

Students previously attending LJHS were more familiar with reference books of this type than any of the others who attended Hines and Burns (Slater) Elementary Schools. Lincoln students correctly answering this question involved 51.9 per cent with 25.0 per cent of the Burns Elementary students, and 35.9 per cent of Hines Elementary students responding correctly. The factor of age may enter in here as Lincoln students were between one and two years ahead of the other students in school. This exact relationship is not known.

The study indicates a definite advantage to this question for students who were or had been enrolled in a library science class in relation to those who had not. Of the students who had taken such a class, 47.2 per cent answered this question correctly. Those students who said they had not taken such a class involved 32.2 per cent giving the correct answer. The advantage of the library science class at the LJHS is definitely shown in these results, at least on this particular item.

It was rather surprising to the writer that 2.6 per cent of the Lincoln students, 1.5 per cent of the Hines students, and 3.8 per cent of the Burns students said that a life sketch of President Nixon would be found in Dictionary of Phrase and Fable. Those who had taken the formal library science class had 3.6 per cent response to the question, and those who said they had not tallied 1.9 per cent. The writer is not sure as to whether the students did not answer the question correctly because they did not understand it, or because they were members of the Democratic Party and felt that the Nixon policy would be best described as fable. At any rate, the study indicates that the formal library

science class as structured at the LJHS was of definite advantage in teaching the students concerning reference books of this type and helping them to develop some skill in their use. Other schools in the "cooperative system" could greatly benefit from this approach.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusion

This study was made to see if some relationship could be found between the school district where the students attended and their ability to utilize the library facilities available. The results of this survey derived from statistical data show some interesting relationships. Various variables were also compared to library attitudes, grade level, sex of the student, GPA, and formal library science classes.

The students' attitude pertaining to the usefulness of hardbound books was found to be highly significant when compared to only one factor; that of reading ability. The students in the highest reading achievement level preferred hardbound books, and the students with low reading ability did not place a great deal of importance on hardbound books. This was found to be significant at the 05 level, and the conclusion is probably very accurate because the entire student population was included in the study. The general attitude of these students show that they favored hardbound books over paperbound ones.

When comparing sex with the type of book preferred, the boys found paperbound books more desirable than did the girls. This was found to be significant at the 05 level.

The students in every category felt that the card catalog was very useful. When comparing this with other factors, no significance was shown. The actual use of the card catalog was directly opposite the attitude of usefulness shown by the students. Very few knew how to use it, and most of the students found other ways to find desired library materials. The study showed that the knowledge and skill exhibited by students concerning the card catalog left a great deal to be desired.

When students stated their periodical preference, it was found that there was no definite significance in the difference between their interests and attitudes in relation to their grade level. From the results of this study, it was concluded that students who participated in a formal library science class were generally more studious in attitude than those who did not.

Students who had not participated in formal library science classes favored periodicals pertinent to their individual interests. This was the outdoor and sports type for boys and fashions for girls. The study indicates that this was true of the lower ability students also, but there was not sufficient evidence to conclusively state this as fact. The reading ability ranged from a low of 2 per cent to a high of 99 per cent based on the national percentile averages.

The vertical file was rated "useful" by most students, although many of them apparently did not know what this reference was. The LJHS had just established this reference tool in their library, and the student attitude indicated that seventh and eighth grade students found the vertical file more desirable than ninth graders. The LJHS library seemed to have a greater success factor than any of the three school dis-

tricts for vertical file use.

Statistical data from the computer showed a significant relationship to periodical usage and knowledge of The Reader's Guide to Periodical Literature. The periodicals requiring minimal reading were selected as favorites by all groups of students. The study showed that many students knew nothing concerning the Reader's Guide. This is the least used reference in the library, according to the results of this study. It appears that younger students in the elementary grades may use this as a finding tool, but the older they get the less they use it.

The most popular method of choosing library materials based on interest, rather than reading ability, was by browsing. Students who are average or above average readers choose their books in this manner and the lower ability students just do not read. The card catalog is used very little, and it is apparent that students have not been trained in its use. The findings from knowledge and skill areas of the questionnaire leave little doubt.

Students who depended on the librarian to help them find materials were mostly in the lowest GPA levels. The chi-square significance was at the 05 level and even these students selected many of the materials they did use by browsing.

Sex played an important role in the number of students who checked materials out of the library. Almost twice as many girls used this method than boys. They were found to be more academically oriented, perhaps accounting for this fact. Very few students said they preferred to use library materials within the facility. This could be partly due to the space limitation and atmosphere of the library. Their ability to use the facility is probably another factor explaining the infrequent use

of the library.

Students generally showed a lack of skill and knowledge in their use of the card catalog. The difference between author, subject, and title cards was not understood. The same problem obviously existed in use of the Reader's Guide, although formal library science training did have definite value on the development of reference skills.

In the reference area of the study, it was shown that skill increased in direct proportion to the grade level of the students. Dictionary skill was found to be inadequate, and many students did not seem to know how to use it. The grammar was confused with the dictionary and this may have been due to the emphasis placed on it in the LJHS seventh grade English classes and the methods used to teach it. The dictionary was found to be a seldom used reference tool. In contrast; however, the students seemed to know quite a bit concerning use of an atlas and references such as Who's Who in America. Other findings were not significant and were omitted from the conclusion.

This study showed a few definite relationships. It was shown that sex influences academic interest and personal interest. It disclosed that students had been taught the importance of the card catalog, but they did not know how to effectively use it. The study showed that grade level and school district affects the type of references students most frequently use. It was highly significant that students using the library had a high level of reading ability, and the use of reference books was definitely increased by taking a formal library science class.

Recommendations

There are several things that can be done to improve the library attitudes, use, skill, and knowledge of the students in the three school districts. This will enable the students to learn more effectively and pursue personal interests in greater depth.

1. Since the three school districts of Hines, Burns, and Burns Union High School are involved in a "cooperative system," a continuing curricular program in library science should be established. This should be correlated in such a way that students K-6 should be under the same program as those 7-12 students at LJHS and BUHS. This should include career education on the secondary level of education. The clusters being established will fit nicely into such a program.

2. Develop an inservice program for teachers of the three districts for evaluation purposes of their personal skill and knowledge in the use of the library. This should include the card catalog, vertical file, Reader's Guide, and general references along with the book and non-book materials. This can be periodically followed with a training program to increase the teachers' skill and knowledge in cooperation with the librarians. A teacher cannot teach his student something he does not know himself.

3. The teachers should be urged to visit the school library, recommend books and materials for their subject specialties, and encourage students to use the library facilities under teacher supervision with assistance from the librarian. This should be done on a regular basis and not just a couple of times each year. The student will be able to improve his reading ability and library skills through such a program.

4. Special library sessions should be encouraged for students with lower ability, and provisions should be made to work with them in small groups according to the specific problems and abilities of the student. If a one-to-one basis is essential, every effort should be made to see that this is done.

5. It is imperative that patrons of the school districts be involved. It should be impressed upon their minds the importance of books and other materials, and a means should be made available whereby they can work with their son or daughter through the library program.

6. A unified library program should be developed based on the specific needs of the students. It should contain qualified teachers, librarians, parents, and others to make it a success. Multi-media materials should be made available, and the library should be established as the hub of all educational programs, whether they are in the classroom or outside of it.

7. Every student should be made to feel welcome in the library facility, and student assistance can also play a major role in the success of library usage.

APPENDIX

550 NORTH COURT
BURNS, OREGON 97720

We, the undersigned, authorize the study for the Master of Library Science Research Program of Golden V. Adams, Jr., being conducted at the Lincoln Junior High School and the Burns Union High School in Burns, Oregon.

This study includes all students registered and found primarily in the categories of seventh and eighth grade students from Hines, Oregon; seventh and eighth grade students from Burns, Oregon, of which the majority of eighth grade students were previously enrolled at the Lincoln Junior High School; and seventh and eighth grade students transferring to the system this year. The ninth grade students in the study are registered at Burns Union High School, and come primarily from Burns where Lincoln Junior High was attended last year; from Hines, Oregon in an elementary school district; and from transfers outside of the area.

The study deals with library attitudes, skills, and knowledge of the use, including actual usage of the Lincoln Junior High School Library.

Orville R Bailey Superintendent

Edward A. Clark Principal

Edith V. Aman Librarian

QUESTIONNAIRE

Please check one answer on each question unless otherwise specified.

1. The school attended last year:

156 1. Lincoln Junior High School

68 2. Burns Elementary School District

132 3. Hines Elementary School District

44 4. Other: (specify) Mostly transfer students

2. Present Grade level:

118 1. 7th Grade

141 2. 8th Grade

140 3. 9th Grade

3. Sex:

206 1. Male

194 2. Female

4. Please indicate last year's approximate grade point average (GPA):

51 1. 90 - 100 % or A (1)

145 2. 80 - 89 % or B (2)

179 3. 70 - 79 % or C (3)

23 4. 60 - 69 % or D (4)

0 5. Below 60 % or F (5)

5. Have you ever participated in a formal library science class?

207 1. Yes

191 2. No

LIBRARY ATTITUDES:

For the following items, please rate each according to the scale below, indicating how useful you think they are as pertaining to the Lincoln Jr. High School Library and/or the Burns Union High School Library if you are in the 9th grade. Place the number of your choice from the scale in the blank provided for each.

1	2	3	4	5	6	7
Very Useful		Useful		Somewhat Useful		Of Little Use

_____ 6. Hardbound Books (other than textbooks for classes)

_____ 7. Paperbound Books (other than textbooks for classes)

_____ 8. Card Catalog

_____ 9. Periodicals (such as Time, Life, etc.)

_____ 10. Vertical File Materials

_____ 11. Other: (Please specify)_____

_____

From the following list of magazines currently subscribed by the Lincoln Junior High School, list the top 10 that you read or look at most frequently. Place the number 1 by your first choice, the number 2 by your second choice, etc., until you have listed all 10 choices in the blank next to each periodical. Please read through the entire list before answering.

_____ 12. American Aircraft Modeler

_____ 13. American Girl

_____ 14. American Red Cross Youth Journal

_____ 15. American History Illustrated

_____ 16. Arizona Highways

_____ 17. Athletic Journal

_____ 18. Baseball Digest

_____ 19. Better Homes and Gardens

_____ 20. Booklist

_____ 21. Boys Life

_____ 22. Changing Times

_____ 23. Consumer Reports and Buying Guide

_____ 24. Field and Stream

_____ 25. Flying

_____ 26. Good Housekeeping

_____ 27. Holiday

_____ 28. Hot Rod

_____ 29. Instructor

_____ 30. Ladies Home Journal

_____ 31. Life

_____ 32. Look

_____ 33. Music Journal

_____ 34. National Geographic

_____ 35. National Geographic School Bulletin

_____ 36. National History Inc., Nature

_____ 37. Newsweek

_____ 38. Popular Mechanics

_____ 39. Popular Science

_____ 40. Readers' Digest

_____ 41. Saturday Review

_____ 42. School Arts

_____ 43. Science Digest

_____ 44. Science News (Ohio)

_____ 45. Scientific American

_____ 46. Seventeen

_____ 47. Sports Illustrated

_____ 48. Teen

_____ 49. Time

_____ 50. Today's Health

_____ 51. U.S. News and World Report

52. Please comment as to the primary reason you read the above periodicals (mark one only):

5 1. Assigned reading

301 2. Personal interests or hobbies

8 3. Research

37 4. Other: (specify) A combination of above choices

LIBRARY USEAGE:

Please rate each of the following items according to the scale shown below as to the frequency in which you use them.

1	2	3	4	5	6	7
Very Often		Often		Occasionally		Almost Never

_____ 53. Select materials from card catalog

_____ 54. Select articles from Reader's Guide to Periodicals

_____ 55. Select materials by browsing

_____ 56. Depend on librarian to help find materials

_____ 57. Check materials out of library

_____ 58. Use materials within the library

LIBRARY SKILL AND KNOWLEDGE:

Answer the following questions concerning your knowledge of the library. Mark the one best answer only.

59. To find the book 30 Seconds Over Tokyo in the card catalog, you would look under:

22 1. Seconds

15 2. The number 30 in the number section of the card catalog

* 78 3. The word 'thirty' (the number 30 spelled out)

210 4. Such a title would not have a title card but would, instead, be filed under the author's name or subject heading

73 5. I do not know

60. Where would the book 21 Balloons be filed in the card catalog in relation to the book 20 Elephants?

189 1. Before

* 87 2. After

71 3. It could be either before or after with the system used at most schools

51 4. I do not know

61. To find the book ...And Now Miguel in the card catalog, you would look under:

* 98 1. And

31 2. Now

46 3. Either 1 or 2 -- cards are filed both ways in most libraries

149 4. Such a title would not have a title card but would, instead, be filed under the author's name or subject heading

75 5. I do not know

62. An author card for Albert L. McGrady would be found in which tray?

85 1. C-Cum

* 121 2. Maca-Mae

134 3. M-Maca

52 4. Mas-Mat

63. The title card for the book St. John of the Cross would be found filed in which tray?

67 1. S-Saint d

* 111 2. Saint e-Saint pet

133 3. St-Pa

81 4. Saints g-Saints z

64. The words in red or in all capital letters at the top of some library cards indicate:

* 89 1. The subject heading

120 2. The title

43 3. The author

25 4. An additional book title to which you could refer

121 5. I do not know

65. Cards with the same subject heading are filed in what order in the card catalog? (omitted from study)

_____ 1. Alphabetical order according to the first word of the title

_____ 2. Alphabetical order according to the author's last name

_____ 3. Chronologically according to the date of printing

_____ 4. None of the above

_____ 5. I do not know

66. The subject heading "Egg" has several items filed under it in the abridged Reader's Guide to Periodic Literature. There are other subject headings closely related to eggs that may also be of value, such as "Cookery" and "Easter Eggs". How would you learn of these additional subject headings?

* 180 1. When you looked up "Egg" in the Reader's Guide, you would find an entry that reads "see also Bird's Eggs, Cookery-Eggs, Easter Eggs"

80 2. You would need to consult the librarian

42 3. You would need to begin checking the cross-references and some magazine article related to eggs, and eventually you would run across the headings "Cookery-Eggs," and "Easter-Eggs"

(over)

6 4. You would not be able to tell in this case

9 5. I do not know

67. In the Reader's Guide, magazine articles under the subject "Dialects" are actually filed under the subject heading "English language-Dialects". How would you discover this if you did not know?

* 143 1. When you looked up "Dialect" you would find an item stating "see English language-Dialect"

57 2. You would need to consult the librarian

50 3. You would need to begin checking the cross-references on some journal article concerning dialects, and eventually you would run across the heading "English language-Dialects"

12 4. You would not be able to tell in this case

136 5. I do not know

68. Which tells how to use the word insouciance in a sentence?

* 220 1. A dictionary

95 2. An English grammar

27 3. An encyclopedia

8 4. An almanac such as the World Almanac

48 5. I do not know

69. Where would you look to find the location of Orange County, Indiana?

89 1. In an encyclopedia

* 215 2. In an atlas

22 3. On a globe

39 4. In a geography textbook

32 5. I do not know

70. Where could you find a brief description of the career of the present Lord Beaverbrook of England?

35 1. In any comprehensive almanac

108 2. In an encyclopedia

100 3. In Current Biography

* 27 4. In Statesman's Yearbook

126 5. I do not know

71. Where could find a short life sketch of Richard M. Nixon, President of the United States of America?

52 1. In any comprehensive almanac

48 2. In an encyclopedia

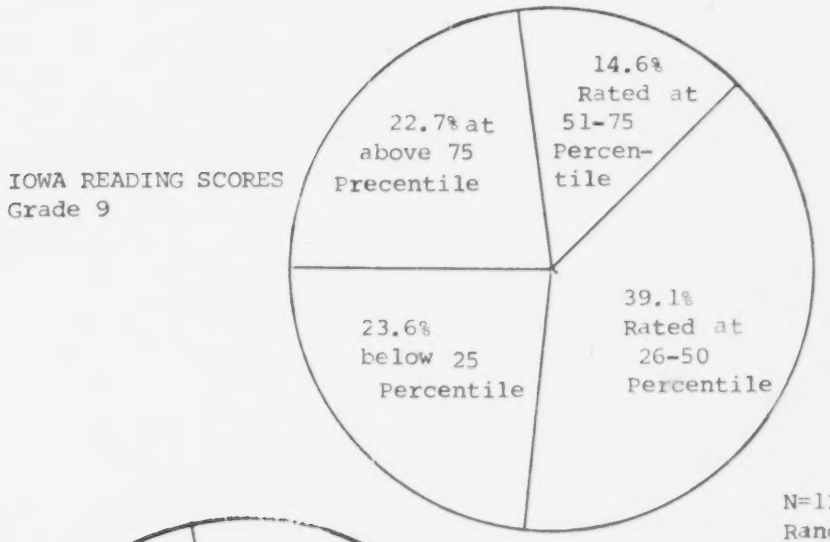
* 158 3. In Who's Who in America

37 4. In Statistical Year Book

12 5. In Brewer's Dictionary of Phrase and Fable

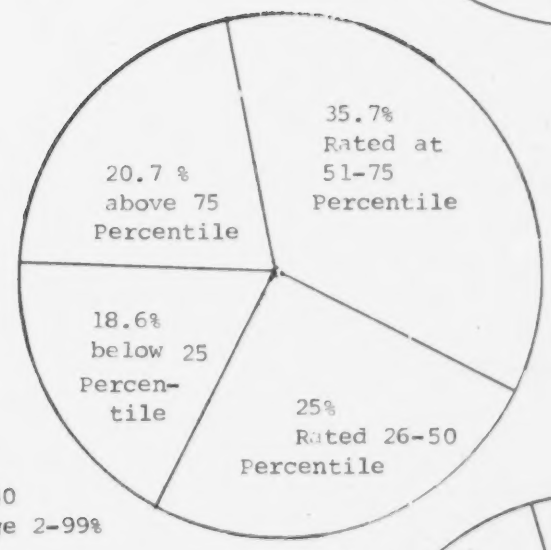
88 6. I do not know

BURNS-HINES STUDENTS AND NATIONAL PERCENTILE READING SCORES



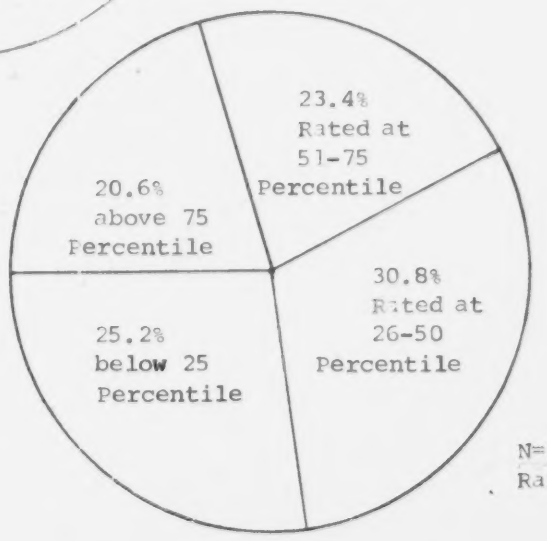
IOWA READING SCORES
Grade 9

N=123
Range 3-99%



IOWA READING SCORES
Grade 8

N=140
Range 2-99%



IOWA READING SCORES
Grade 7

N=107
Range 2-96%

School Attended	Library Science Class: Yes	Library Science Class: No	
Lincoln Junior High School	125	29	Student Response
	80.1%	18.6%	Per cent Response
Hines Elementary	50	81	
	38.2%	61.8%	
Burns Elementary	20	48	
	29.4%	70.6%	

FORMAL LIBRARY SCIENCE AND SCHOOL ATTENDED

Chi Square Significance .05

Library Science Class

	Yes	No	
7th	24	77	Student Responses
	23.8%	76.2%	Per cent Response
8th	73	54	
	57.0%	42.2%	
9th	98	26	
	78.4%	20.8%	

Grade Attended

FORMAL LIBRARY SCIENCE AND GRADE ATTENDED

Chi Square Significance 05

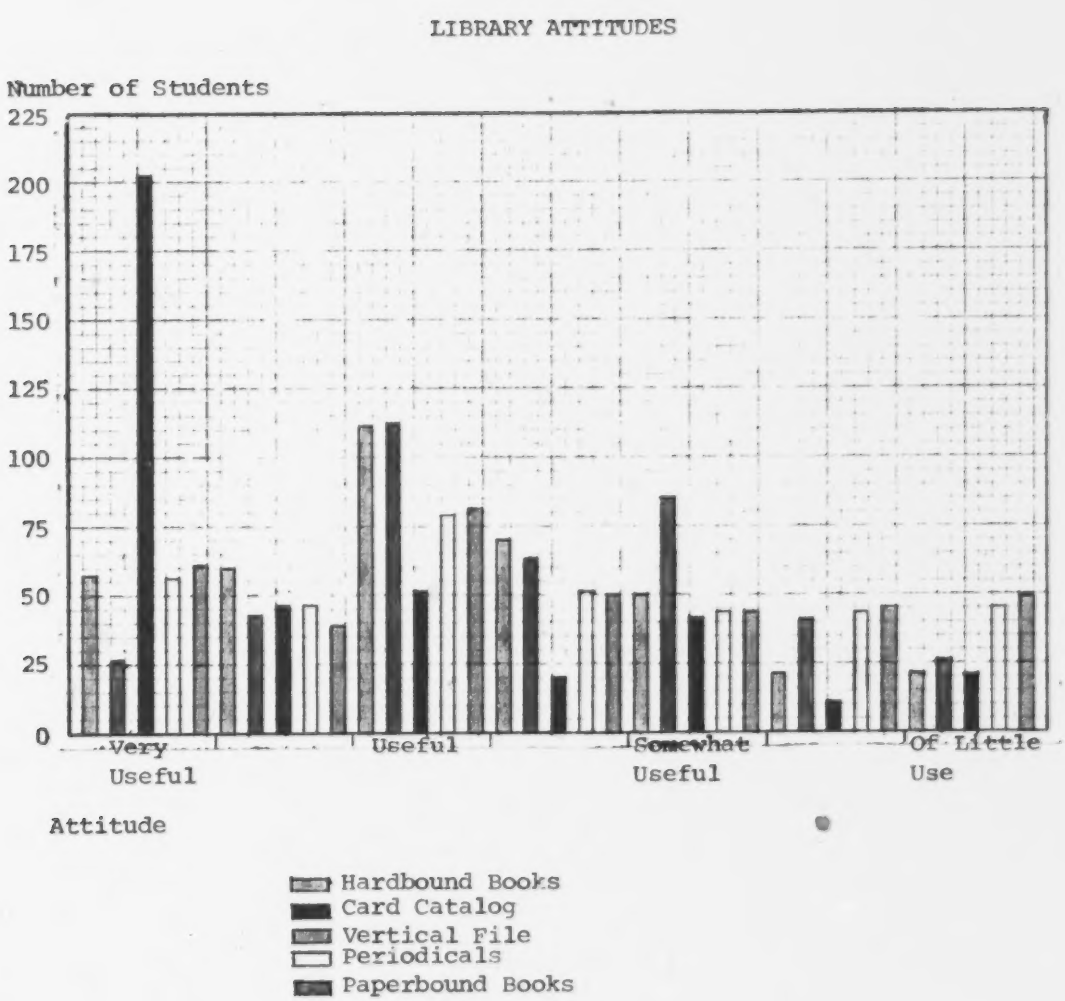
Grade Attended

Student's Achievement Scores	7th	8th	9th
90-100%	8 7.9%	11 8.6%	15 12.0%
80-89%	3 3.0%	12 9.4%	5 4.0%
70-79%	14 13.9%	12 9.4%	16 12.8%
60-69%	6 5.9%	15 11.7%	4 3.2%
50-59%	10 9.9%	22 17.2%	2 1.6%
40-49%	15 14.9%	14 10.9%	15 12.0%
30-39%	10 9.9%	16 12.5%	26 20.8%
20-29%	5 5.0%	5 3.9%	9 15.2%
Below 19%	19 18.8%	15 11.7%	7 5.6%

Student Responses
Per cent Response

STUDENT'S ACHIEVEMENT SCORES AND GRADE ATTENDED

Chi Square Significance .05


LIBRARY ATTITUDES
Number of Students
225
200
175
150
125
100
75
50
25
0
Very Useful
Useful
Somewhat Useful
Of Little Use
Attitude
Hardbound Books
Card Catalog
Vertical File
Periodicals
Paperbound Books

Usefulness of Hardbound Books

	Very Useful		Useful		Somewhat Useful		Of Little Use
90-100%	7 20.6%	6 17.6%	10 29.4%	7 20.6%	2 5.9%	1 2.9%	1 2.9%
80-89%	5 25.0%	7 35.0%	4 20.0%	2 10.0%	1 5.0%	1 5.0%	0
70-79%	6 14.3%	9 21.4%	7 16.7%	6 14.3%	11 26.2%	1 2.4%	2 4.8%
60-69%	1 4.0%	4 16.0%	9 36.0%	5 20.0%	4 16.0%	2 8.0%	0
50-59%	6 17.6%	4 11.8%	7 20.6%	6 17.6%	3 8.8%	5 14.7%	3 8.8%
40-49%	4 9.1%	5 11.4%	12 27.3%	9 20.5%	6 13.6%	5 11.4%	3 6.8%
30-39%	8 15.4%	5 9.6%	14 26.9%	14 26.9%	8 15.4%	0	3 5.8%
20-29%	5 17.2%	3 10.3%	5 17.2%	4 13.8%	3 10.3%	5 17.2%	4 13.8%
Below 19%	11 26.2%	3 7.1%	15 35.7%	3 7.1%	4 9.5%	1 2.4%	5 11.9%

Student's Achievement Scores

STUDENT'S ACHIEVEMENT SCORES AND ATTITUDE TOWARD HARDBOUND BOOKS

Chi Square Significance .05

Attitude Toward Use of Paperback Books	Student's Sex: Female	Student's Sex: Male	
Very useful	14	12	Student Responses
	8.1%	6.6%	Per cent Response
	16	18	
	9.3%	9.8%	
Useful	46	51	
	26.7%	27.9%	
	21	34	
	12.2%	18.6%	
Somewhat useful	34	43	
	19.8%	23.5%	
	31	9	
	18.0%	4.9%	
Of little use	10	14	
	5.8%	7.7%	

ATTITUDE TOWARD USE OF PAPERBACK BOOKS AND STUDENT'S SEX

Chi Square Significance .05

TABLE 1

STUDENTS' ATTITUDE CONCERNING SUBSCRIPTION PERIODICALS
AT LINCOLN JUNIOR HIGH SCHOOL
(Numbers in Percentages)

Title of Periodical	School Attended			Sex		Grade			Last Grade Point Average				Library Science	
	LJHS	Burns	Hines	Male	Female	7th	8th	9th	A	B	C	D	Yes	No
American Aircraft Modeler	16.59	22.06	11.36	29.61	1.02	17.80	21.28	8.57	1.96	16.55	18.99	17.39	12.08	19.90
American Girl	45.41	42.65	41.67	6.31	80.93	38.98	43.26	44.29	49.02	46.21	38.55	30.43	44.44	39.79
American Red Cross Youth Journal	1.92	4.41	0.76	1.46	3.09	3.39	0.71	2.14	0.00	2.07	2.23	8.70	1.45	3.14
American History Illustrated	3.21	10.29	6.06	8.74	2.58	7.63	7.09	2.86	7.84	5.52	5.03	8.70	3.38	8.38
Arizona Highways	8.97	13.24	20.61	10.68	11.34	12.71	9.22	11.43	11.76	8.97	12.85	8.70	8.21	14.14
Athletic Journal	28.21	27.94	31.82	47.09	9.79	28.81	32.62	25.71	11.76	28.97	33.52	34.78	29.95	27.75
Baseball Digest	15.38	14.71	18.94	30.58	0.52	15.25	20.57	12.14	7.84	14.48	19.55	17.39	16.43	15.71
Better Homes and Gardens	30.13	33.82	36.52	2.91	36.19	30.51	25.53	30.71	35.29	33.79	24.58	8.70	31.40	25.65
Booklist	1.28	11.47	0.76	0.00	2.06	0.85	1.42	0.71	1.96	0.69	0.56	4.35	0.97	1.05
Boys' Life	44.87	44.12	46.21	72.82	15.98	48.31	48.94	39.29	43.14	40.69	49.72	47.83	44.44	46.60
Changing Times	5.77	0.00	3.03	2.91	4.64	2.54	2.13	6.43	3.92	3.45	2.79	8.70	3.38	4.19
Consumer Reports and Buying Guide	5.77	2.94	6.82	6.80	3.61	2.54	7.09	5.71	7.84	4.83	5.03	4.35	5.80	4.71
Field and Stream	40.38	39.71	50.00	71.86	13.92	40.68	47.52	42.86	33.33	36.55	53.07	43.48	43.48	44.50
Flying	26.28	17.65	24.24	45.15	1.03	20.34	31.21	19.29	5.88	17.24	40.17	56.52	22.22	25.85
Good Housekeeping	33.97	42.65	29.55	2.91	65.46	35.59	29.79	34.29	49.02	38.62	26.26	13.04	36.71	28.80
Holiday	17.95	19.12	13.64	4.77	25.26	16.95	17.73	14.29	9.80	15.86	18.44	17.39	17.39	14.66
Hot Rod	42.95	35.29	52.27	1.67	10.31	42.37	50.35	32.14	17.65	41.38	53.07	69.57	43.48	46.60
Instructor	1.28	1.47	2.27	0.97	2.06	0.85	0.71	2.14	1.96	1.38	1.12	4.35	1.45	1.57
Ladies Home Journal	17.95	22.06	15.91	1.46	36.08	19.49	17.73	17.86	23.53	20.69	15.64	8.70	20.29	15.18
Life	66.03	58.72	60.61	59.22	68.56	63.56	60.28	67.86	76.47	57.93	65.48	47.83	67.63	59.69
Look	58.33	38.24	48.48	41.26	60.82	38.98	55.32	55.71	60.78	40.21	51.96	43.48	55.56	45.55
Music Journal	4.49	8.72	3.03	4.85	6.70	8.47	4.26	5.00	1.96	6.21	3.91	26.09	3.38	8.38
National Geographic Magazine	33.97	45.59	47.73	48.54	34.02	46.61	39.01	40.00	62.75	45.52	34.64	26.09	37.68	45.07
National Geographic School Bulletin	7.69	5.78	8.33	7.28	7.73	6.78	9.22	6.43	7.84	8.28	6.70	8.70	6.28	8.90
National History Inc., Nature	4.49	7.35	4.55	8.25	1.55	5.93	4.26	5.00	1.96	5.52	5.59	4.35	4.35	5.76
Newsweek	14.10	5.88	18.94	17.96	13.92	12.71	14.89	20.00	23.53	8.72	13.81	4.35	16.91	16.18
Popular Mechanics	20.51	22.06	21.97	39.81	1.55	18.64	21.28	23.57	7.84	25.52	19.55	39.13	31.26	21.47
Popular Science	17.31	17.65	13.64	29.13	4.64	16.95	18.44	16.43	11.76	18.62	16.20	30.43	15.46	19.37
Readers' Digest	45.59	35.29	39.39	27.67	54.64	32.20	40.43	47.86	56.86	48.28	31.28	30.43	43.96	36.65
Saturday Review	1.28	4.41	3.79	1.94	3.12	5.08	0.00	4.29	3.92	2.07	3.35	4.35	1.93	4.19
Science Digest	5.77	7.35	3.79	6.31	5.67	5.93	4.96	6.43	3.92	6.90	6.15	4.35	5.31	6.28
Science News (Ohio)	2.56	1.47	2.27	3.40	1.55	0.85	2.84	3.57	5.88	2.07	1.68	4.35	2.42	2.62
Scientific American	2.56	4.41	3.79	3.40	3.09	5.08	4.26	0.71	3.92	3.45	2.79	4.35	2.42	4.19
Seventeen	48.08	42.65	40.15	6.80	83.51	39.83	46.71	54.29	52.74	50.34	37.99	26.09	50.24	36.85
Sports Illustrated	37.72	35.29	49.24	67.48	10.82	37.29	36.88	55.71	41.18	40.00	40.22	39.13	41.55	38.74
Teen	50.00	42.65	43.94	7.77	86.08	41.53	47.52	47.86	52.94	51.03	41.34	26.09	49.76	40.84
Time	23.72	26.47	28.79	21.84	30.93	24.58	24.82	28.57	35.29	26.90	22.35	30.43	26.09	26.70
Today's Health	7.05	1.47	5.30	3.88	6.19	3.39	4.26	7.14	3.92	4.83	6.15	0.00	6.28	3.66
U.S. News and World Report	4.49	1.47	3.03	3.88	4.64	3.39	4.96	4.29	9.80	3.45	2.79	8.70	4.35	4.19
School Arts	7.69	25.00	12.12	10.19	17.53	23.73	12.66	7.14	11.76	15.17	12.85	17.39	9.66	18.32

Student's Sex

Primary Reason for Using Subscription Periodicals	Male	Female	
Assigned reading	2	3	Student Responses
	1.1%	1.7%	Per cent Response
Personal interest or hobbies	166	135	
	90.7%	78.5%	
Research	4	4	
	2.2%	2.3%	
Other	8	29	
	4.4%	16.9%	

USE OF SUBSCRIPTION PERIODICALS AND STUDENT'S SEX

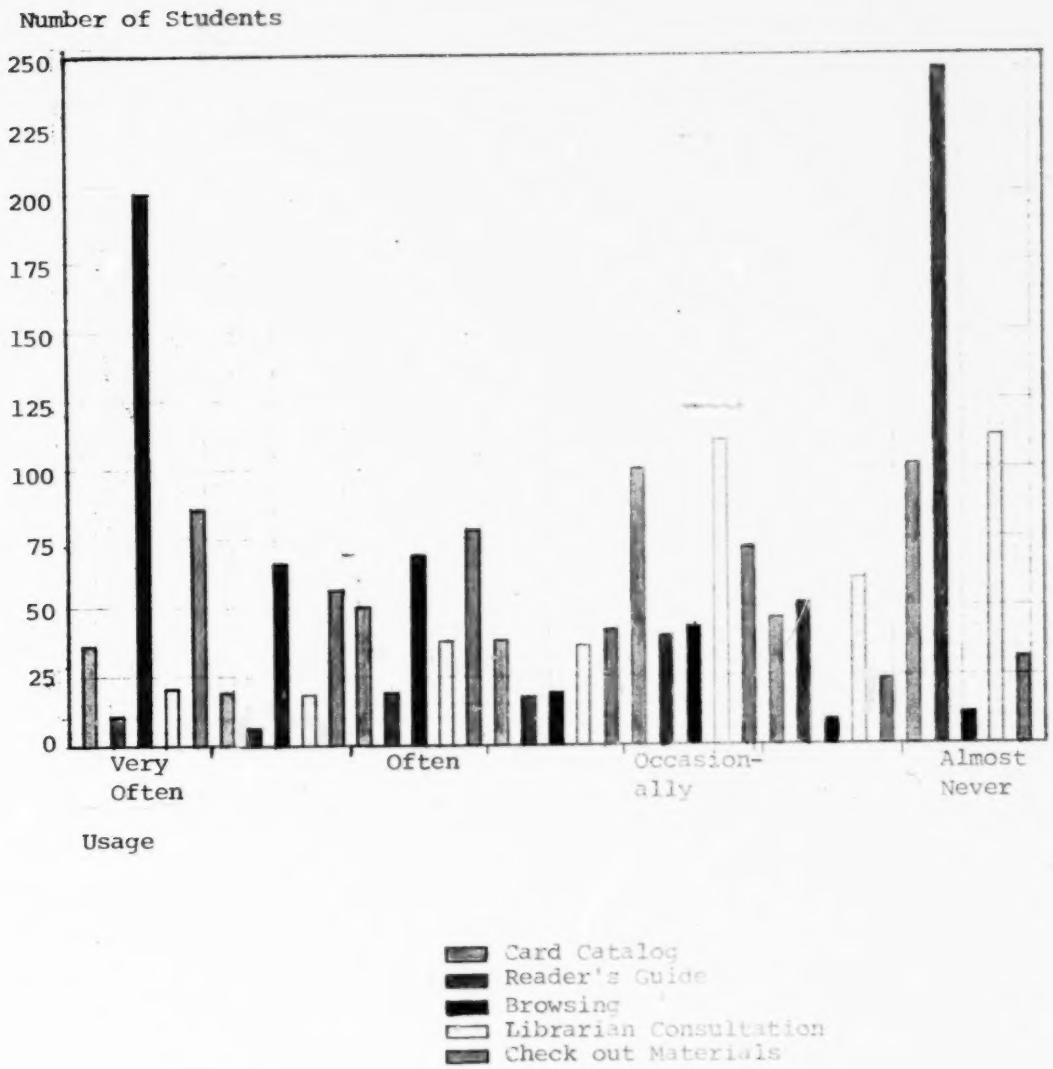
Chi Square Significance .05

Attitudes Concerning Vertical File Materials	Grade Attended 7th	8th	9th	
Very Useful	19	24	8	Student Responses
	18.8%	18.8%	6.4%	Per cent Response
	15	13	8	
	14.9%	10.2%	6.4%	
Useful	20	34	8	
	19.8%	26.6%	16.0%	
	12	13	19	
	11.9%	10.2%	15.2%	
Somewhat Useful	19	16	25	
	18.8%	12.5%	20.0%	
	6	13	23	
	5.9%	10.2%	18.4%	
Of Little Use	10	15	20	
	9.9%	11.7%	16.0%	

GRADE ATTENDED AND ATTITUDE CONCERNING VERTICAL FILE MATERIALS

Chi Square Significance .05

LIBRARY USAGE



School Previously Attended

Use of Card Catalog	Lincoln	Burns	Hines	
Very often	12	6	8	Student Responses
	7.7%	8.8%	6.1%	Per cent Response
	5	9	4	
	3.2%	13.2%	3.1%	
Often	20	14	13	
	12.8%	20.6%	9.9%	
	16	6	11	
	10.3%	8.8%	8.4%	
Occasionally	51	13	28	
	32.7%	19.1%	21.4%	
	16	8	18	
	10.3%	11.8%	13.7%	
Almost never	33	11	47	
	21.2%	16.2%	35.9%	

USE OF THE CARD CATALOG AND SCHOOL ATTENDED

Chi Square Significance .05

	Grade Attended 7th	8th	9th	
Very often	6	3	0	Student Responses
	5.9%	2.3%		Per cent Response
	2	4	2	
	2.0%	3.1%	1.6%	
Often	7	4	4	
	6.9%	3.1%	3.2%	
	3	5	6	
	3.0%	3.9%	4.8%	
Occasionally	6	14	13	
	5.9%	10.9%	10.4%	
	12	19	18	
	11.9%	14.8%	14.4%	
Almost never	65	76	77	
	64.4%	59.4%	61.6%	

Select Articles from Reader's Guide

GRADE ATTENDED AND SELECTING ARTICLES FROM READER'S GUIDE

Chi Square Significance .05

Use of Reader's Guide	Formal Library Science Class: Yes	Formal Library Science Class: No	
Very often	1	9	Student Responses
	0.5%	5.7%	Per cent Response
	4	4	
	2.1%	2.5%	
Often	4	10	
	2.1%	6.3%	
	10	4	
	5.1%	2.5%	
Occasionally	18	15	
	9.2%	9.5%	
	28	21	
	14.4%	13.3%	
Almost never	125	92	
	64.1%	58.2%	

USE OF READER'S GUIDE AND FORMAL LIBRARY SCIENCE

Chi Square Significance 10

Last Year's Approximate GPA

Selection of Materials by Browsing	A 90-100%	B 80-89%	C 70-79%	D 60-69%
Very often	20 44.4%	65 50.4%	71 44.9%	4 19.0%
	10 22.2%	30 23.3%	18 11.4%	1 4.8%
Often	6 13.3%	18 14.0%	30 19.0%	6 28.6%
	1 2.2%	5 3.9%	8 5.1%	1 4.8%
Occasionally	4 8.9%	6 4.7%	22 13.9%	5 23.8%
	2 4.4%	1 0.8%	2 1.3%	1 4.8%
Almost never	2 4.4%	3 2.3%	5 3.2%	0

STUDENT'S GRADE POINT AVERAGE AND SELECTION OF MATERIALS BY BROWSING

Chi Square Significance .05

Last Year's Approximate GPA

Dependence on Librarian in Finding Materials	A 90-100%	B 80-89%	C 70-79%	D 60-69%
Very often	1 2.2%	7 5.4%	10 6.3%	2 9.5%
	2 4.4%	6 4.7%	6 3.8%	0
Often	4 8.9%	11 8.5%	18 11.4%	1 4.8%
	6 13.3%	6 4.7%	22 13.9%	1 4.8%
Occasionally	10 22.2%	37 28.7%	42 26.6%	5 23.8%
	9 20.0%	23 17.8%	18 11.4%	1 4.8%
Almost never	13 28.9%	38 29.5%	39 24.7%	7 33.3%

STUDENT'S GRADE POINT AVERAGE AND DEPENDENCE ON LIBRARIAN IN FINDING MATERIALS

Chi Square Significance 05

Checking Materials Out of the Library	Student's Sex: Male	Student's Sex: Female	
Very often	28	43	Student Responses
	15.3%	25.0%	Per cent Response
	31	21	
	16.9%	12.2%	
Often	36	34	
	19.7%	19.8%	
	16	23	
	8.7%	13.4%	
Occasionally	37	29	
	20.2%	16.9%	
	10	13	
	5.5%	7.6%	
Almost never	18	8	
	9.8%	4.7%	

CHECKING MATERIALS OUT OF THE LIBRARY AND CHILD'S SEX

Chi Square Significance .05

Last Year's Approximate GPA

Use of Materials Within the Library	A 90-100%	B 80-89%	C 70-79%	D 60-69%
Very often	6 13.3%	13 10.1%	19 12.0%	2 9.5%
	3 6.7%	15 11.6%	15 9.5%	1 4.8%
Often	6 13.3%	26 20.2%	30 19.0%	5 23.8%
	11 24.4%	22 17.1%	22 13.9%	0
Occasionally	7 15.6%	26 20.2%	34 21.5%	5 23.8%
	7 15.6%	11 8.5%	11 7.0%	2 9.5%
Almost never	5 11.1%	15 11.6%	25 15.8%	3 14.3%

STUDENT'S GRADE POINT AVERAGE AND USE OF MATERIALS WITHIN THE LIBRARY

Chi Square Significance .05

	Sex		
	Male	Female	
* And	35	53	Student Responses
	19.1%	30.8%	Per cent Response
Now	10	17	
	5.5%	9.9%	
Either And or Now	24	18	
	13.1%	10.5%	
No title but author card	66	63	
	36.1%	36.6%	
Do not know	47	21	
	25.7%	12.2%	

Title Card ...And Now Miguel

FINDING ...AND NOW MIGUEL IN THE CARD CATALOG AND SEX

Chi Square Significance .05

Library Science Class

	Yes	No	
S-Saint d	32	24	Student Responses
	16.4%	15.2%	Per cent Response
* Saint e-Saint pet	61	42	
	31.3%	26.6%	
St-Ta	71	44	
	36.4%	27.8%	
Saints g-Saints z	27	44	
	13.8%	27.8%	

Title Card St. John of the Cross

FORMAL LIBRARY SCIENCE AND FINDING ST. JOHN OF THE CROSS IN THE CARD CATALOG

Chi Square Significance .05

Subject Heading "Egg" in Reader's Guide	Grade Attended 7th	8th	9th	
* Other subject headings	37	66	61	Student Responses
	36.6%	51.6%	48.8%	Per cent Response
Consult librarian	29	21	15	
	28.7%	16.4%	12.0%	
Check cross-references	11	14	11	
	10.9%	10.9%	8.8%	
Not possible to tell	1	0	5	
	1.0%		4.0%	
Do not know	23	27	32	
	22.8%	21.1%	25.6%	

FINDING ADDITIONAL SUBJECT HEADINGS FOR "EGG" IN THE READER'S GUIDE AND GRADE ATTENDED

Chi Square Significance .05

Grade Attended

Recommended Source for "insouciance"	7th	8th	9th	
* Dictionary	46 45.5%	76 59.4%	74 59.2%	Student Responses Per cent Response
Grammar	25 24.8%	24 28.8%	36 28.8%	
Encyclopedia	12 11.9%	9 17.0%	1 0.8%	
World Almanac	3 3.0%	3 2.3%	1 0.8%	
Do not know	14 13.9%	16 12.5%	12 9.6%	

KNOWLEDGE OF DICTIONARY USE AND GRADE ATTENDED

Chi Square Significance .05

	Grade Attended 7th	8th	9th	
Encyclopedia	30	27	22	Student Responses
	29.7%	21.1%	17.6%	Per cent Response
* Atlas	39	73	82	
	38.6%	57.0%	65.6%	
Globe	8	6	7	
	7.9%	4.7%	5.6%	
Geography text	14	12	6	
	13.9%	9.4%	4.8%	
Do not know	9	9	7	
	8.9%	7.0%	5.6%	
Reference Book				

KNOWLEDGE OF REFERENCE BOOK TO USE IN LOCATING A COUNTY AND GRADE ATTENDED

Chi Square Significance .05

School Previously Attended

	Lincoln	Burns	Hines	
Comprehensive almanac	17	8	18	Student Responses
	10.9%	11.8%	13.7%	Per cent Responses
Encyclopedia	14	15	13	
	9.0%	22.1%	9.9%	
* Who's Who in America	81	17	47	
	51.9%	25.0%	35.9%	
Statistical Year Book	13	7	13	
	8.3%	10.3%	9.9%	
Dictionary of Phrase and Fable	4	1	5	
	2.6%	1.5%	3.8%	
Do not know	26	20	33	
	16.7%	29.4%	25.2%	

Reference Books for Life Sketch of President Nixon

REFERENCE BOOKS FOR LIFE SKETCH OF PRESIDENT NIXON AND SCHOOL ATTENDED

Chi Square Significance .05

Formal Library Science Class

	Yes	No	
Comprehensive almanac	20	23	Student Responses
	10.3%	14.6%	Per cent Response
Encyclopedia	20	22	
	10.3%	13.9%	
* Who's Who in America	92	51	
	47.2%	32.3%	
Statistical Year Book	21	12	
	10.8%	7.6%	
Dictionary of Phrase and Fable	7	3	
	3.6%	1.9%	
Do not know	32	47	
	16.4%	29.7%	

Reference Books for Life Sketch of President Nixon

REFERENCE BOOKS FOR LIFE SKETCH OF PRESIDENT NIXON
AND FORMAL LIBRARY SCIENCE

Chi Square Significance .05

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